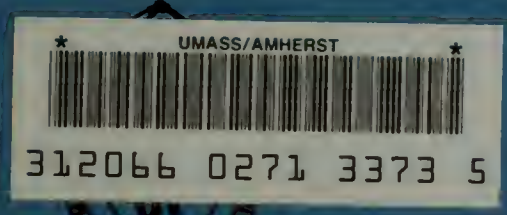


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**Department
of Education**

**CARL D. PERKINS VOCATIONAL
AND APPLIED TECHNOLOGY
EDUCATION ACT OF 1990**

Public Law 101-392

**PERFORMANCE REPORT ON
FEDERALLY FUNDED
VOCATIONAL-TECHNICAL
EDUCATION**

FISCAL YEAR 1992

**Massachusetts Department of Education
350 Main Street
Malden, Massachusetts 02148-5023**

The Commonwealth of Massachusetts

932/159

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TABLE OF CONTENTS

		<u>Page</u>
PREFACE		1
PART I	- Performance Standards and Core Measures	3
PART II	- Secondary, Postsecondary and Adult Occupational Programs, Services and Activities	7
PART III	- Single Parents, Displaced Homemakers and Single Pregnant Women	11
PART IV	- Sex Equity Programs	13
PART V	- Criminal Offenders in Corrections Institutions	17
PART VI	- Special Populations	19
PART VII	- State Leadership and Professional Development	27
PART VIII	- Community-Based Organizations	35
PART IX	- Consumer and Homemaking Education	37
PART X	- Tech-Prep	41
PART XI	- Integrating Applied Academics into Vocational Education	43
PART XII	- Career Guidance and Counseling	45
APPENDIX A	<i>Descriptions of Outstanding Projects</i>	
	Secondary Occupational Programs	49
	Postsecondary Occupational Programs	52
	Single Parent/Displaced Homemaker and Single Pregnant Women	53
	Sex Equity	56
	Criminal Offenders	58
	Special Populations Disabled	59
	Special Populations Disadvantaged	61
	Special Populations Limited English Proficient	62
	Community-Based Organizations	64
	Tech-Prep	66
	Consumer and Homemaking Education	68
APPENDIX B	- State Standards and Measures	71
APPENDIX C	- Secondary and Postsecondary Enrollment Tables	79

This Vocational-Technical Education Performance Report details Massachusetts' first year of the Carl D. Perkins Vocational and Applied Technology Education Act, Public Law 101-392 implementation and efforts to improve educational programs leading to academic and skill competencies needed for work in a technologically advanced society. The report covers the period between July 1, 1991 and June 30, 1992. The first year of the Act witnessed a marked change from the prior Act, Public Law 98-524 with its emphasis on categorical funding. The new Act emphasizes services to "Special Populations", concentrating resources, vocational-technical education program improvement and increased accountability.

- Special Populations includes students who are handicapped, economically and educationally disadvantaged, foster children and those students not adequately served because of sex bias and those with limited English proficiency. The new Act requires service providers to provide access and a full range of guidance and educational services required for successful participation in vocational-technical programs. In addition, members of special populations are required to be involved in the planning, development, implementation and evaluation of the Local Plan for Occupational Education.
- The Perkins Act concentrates resources at both the secondary and postsecondary level and requires service providers to give priority to sites or programs that serve the highest concentration of individuals who are members of special populations. In Massachusetts 100 service providers received support in Fiscal Year 1992 under Title II of the Act in contrast to over 200 in the previous Act.
- Vocational-technical program improvement is supported in a wide variety of activities under the Act and includes improved guidance and counseling, adaptation of equipment for students who are members of special populations, staff development, upgrading of curriculum and the purchase of equipment. For many programs, significant improvement will necessitate a comprehensive approach in order to meet the state's system of performance measures and standards.

- The features of the state's new accountability system of performance measures and standards include a phase-in over the next five years using the principle of continuous improvement. The system will include completion rates, follow-up rates and competency gain. The June 1992 completers of vocational-technical programs will be used to serve as a baseline of data and in each of the next three fiscal years, service providers not meeting the state standard will be required to make substantial progress toward meeting the standard.

For Fiscal Year 1992, Massachusetts received a total of \$19,443,333 in Perkins funds.

Fiscal Year 1992 Funding Distribution

Title II

State Administration	1,031,196
State Leadership	1,753,033
Single Parent/Homemaker	1,505,546
Elimination of Sex Bias	659,966
Corrections	206,239
Secondary Programs	12,513,874
<u>Postsecondary Programs</u>	<u>2,954,068</u>
Title II Total	20,623,922

Title III

Community-Based Organizations	350,656
Consumer/Homemaking Programs	943,954
Consumer/Homemaking State Leadership	48,135
<u>Tech-Prep Education</u>	<u>1,162,306</u>
Title II Total	2,505,051

Grand Total 23,128,973*

*Includes Fiscal Year 1991 carry-over funds.

This report is organized into twelve sections in response to the U.S. Office of Vocational and Adult Education's Performance Report requirements. It also contains fifteen exemplary programs which have been selected based upon their high quality and outstanding services. Performance outcomes have been highlighted. Exemplary programs can be found in Appendix A of this report. The final Appendix (C) reports on secondary and post-enrollments programs receiving support under Title II and Title III of the Act. Additional information on Massachusetts vocational-technical education is available from the Massachusetts Department of Education.

PERFORMANCE STANDARDS AND CORE MEASURES

IMPLEMENTATION SYSTEM

On June 23, 1992 a presentation was made to the the Massachusetts Board of Education which outlined the proposed statewide system of Performance Measures and Standards to evaluate federally funded vocational-technical programs. The presentation detailed the work done by the State Committee of Practitioners to design this new system which was built upon existing elements of current practice and expanded into new areas of performance and evaluation.

ROLE OF STATE COMMITTEE OF PRACTITIONERS

The State Committee of Practitioners was made up of representatives of students, parents, teachers, administrators, school committee members and community college officials. The role of the committee was (1) review any rule devised by the state to implement the Perkins Act and (2) to review, comment on, and propose revisions to a draft proposal for the statewide system.

The State Committee of Practitioners met during the development of the State Plan for Vocational-Technical Education for Fiscal Years 1992-1994 to review state rules to implement the Perkins Act and to begin to analyze the possible elements of the new evaluation system. This committee has met monthly since December, 1991 to draft proposals for statewide measures and standards. In addition to the State Committee of Practitioners, a panel of program administrators from secondary institutions and community colleges convened to review the draft proposal prior to the Board of Education meeting. Presentations were also made to the Massachusetts Jobs Council, Massachusetts Council on Vocational Education, Council of Community College Presidents, and Massachusetts Association of Vocational Administrators. In addition, four regional informational meetings were held with school and community college teachers and administrators responsible for Perkins funded activities.

The Massachusetts Department of Education will disseminate information on the statewide system of measures and standards through workshops which will be scheduled in the winter of 1993. The system will be phased in over the next five years using the principal of substantial progress or continuous improvement. Fiscal Year 1993, completion rates, placement rates, follow-up rates on June 1992 completers will be used to establish a baseline of data. In each of the next three fiscal years, service providers not meeting the state standard will be required to make substantial progress toward meeting the statewide standards. The system will comprise in the next three years, performance measures and standards for all Title II and Title III programs.

In Fiscal Year 1993 service providers will also be required to report on their local system for measuring competency gain/competency attainment for Perkins funded programs. This description will suffice with more specific requirements to be identified for implementation in Fiscal Year 1993 and beyond.

CORE
COMPETENCIES
PROJECT

A key component of the performance measures and standards system will be the work done by Northeastern University during the next year to (a) identify and validate core competencies for 30 occupations offered by vocational-technical education in Massachusetts, (b) analyze the areas of growth in the state's labor market and the relationship to vocational-technical education, (c) design a blueprint for student assessment on both the service provider and statewide levels. The project will utilize a modified DACUM (group interview) process to engage a representative group of incumbents in the validation of core academic, occupational and interpersonal competencies. Emerging or future skills will be identified by job incumbents and by employers in each occupation. School districts and community colleges that offer programs in these areas will be asked to comment on the identified competencies. A cross occupational analysis will be prepared along with a comparison of the identified competency levels with those required for similar occupational preparation in other economically developed countries. The final products of this project will be incorporated into the statewide system of performance measures and standards for vocational-technical education.

FUTURE STATE ASSISTANCE TO SERVICE PROVIDERS

The Massachusetts Board voted on the statewide system of Performance Measures and Standards at its' August meeting in order to implement the new system (Appendix B) as required by the Perkins Act. In addition to regional workshops, a conference is planned on assessment. The conference will be jointly sponsored by the Department of Education and the Massachusetts Vocational Curriculum Resource Center. Each of Massachusetts' 100 Perkins supported service providers will be required to take steps to implement this evaluation system. School districts that operate state approved Chapter 74 vocational-technical programs have had the most experience with this type of evaluation system and consequently will be able to meet the new system requirements with only minor modifications.

SIGNIFICANT CHALLENGES

Comprehensive high schools with non-Chapter 74 programs (e.g. business/office and technology education) and community colleges, will need to expand or in some cases create systems to evaluate the performance of vocational-technical programs and progress made by students in meeting measures and standards. The community colleges have pointed out their present lack of capacity to meet the new reporting requirements. Community College representatives have stated that measures of competency gain will be especially difficult to implement in view of the prevailing principle of academic freedom under which community college teaching staff operate. These issues need to be resolved before the specific standards for competency gain can be successfully implemented (Appendix C).

SECONDARY, POSTSECONDARY AND ADULT OCCUPATIONAL PROGRAMS, SERVICES AND ACTIVITIES

USES OF FUNDS

Funds under Title II were used for a variety of purposes to improve a limited number of existing vocational-technical programs/or sites or establish new programs based upon the participation level of students who are members of special populations. Funds available were used to provide vocational-technical programs that:

- were of such size, scope, and quality as to be effective;
- integrate academic and vocational education in such programs through a coherent sequences of courses so that students achieve both academic and vocational competencies; and
- provide equitable participation in such programs for special populations consistent with the assurances and requirements of Section 119 of the Act.

NEW PROGRAMS

New vocational-technical programs were eligible to be initiated in Fiscal Year 1992 under the Perkins Act provided that labor market conditions supported a new program. There were two methods available to service providers to determine program needs:

- *Statewide Demand List*
Developed in consultation with the Massachusetts Occupational Information Coordinating Committee and the Massachusetts Department of Employment and Training. This list identified thirty-five high-demand occupations for the entire Commonwealth.
- *Local Labor Surveys*
The Statewide Demand List may not in some cases reflect local labor market conditions and service providers can elect to examine local labor market conditions to document employment need within a specific industry or occupational area. Service providers may use occupational surveys conducted through the local Regional Employment Board or employer surveys which examine occupational labor growth. The local surveys should document unfilled job openings and short/long term anticipated job growth.

SECONDARY, POSTSECONDARY AND ADULT OCCUPATIONAL PROGRAMS, SERVICES AND ACTIVITIES

ROLE OF ADVISORY COMMITTEES IN PERKINS FUNDED VOCATIONAL-TECHNICAL PROGRAMS

Advisory Committees with representation from special populations play a critical role in secondary, postsecondary and adult programs. Vocational-technical advisory committees in Massachusetts representing business and industry, labor, parents, and students serve as a forum for continuous program improvement and for integrating and translating information from the work world into practical methods for education. In Massachusetts, advisory committees made significant contributions to Perkins funded programs by:

- *Program planning* - advisory committees helped service providers measure trends in the local labor market. They identified new programs that are needed as well as those programs that are obsolete.
- *Curriculum and instruction advisement* - advisory committees identified new or emerging fields or skills in an occupation and validated tasks to help students become more competitive.
- *Equipment and facilities advisement* - advisory committees assisted service providers to update vocational-technical equipment and facilities.
- *Program evaluation* - advisory committees reviewed with service providers progress made in implementing their occupational education Local Plan and barriers that may impede participation and progress of students who are members of special populations.

ELIGIBLE SERVICE PROVIDERS

One hundred service providers received Fiscal Year 1992 allocations under Title II of the Basic State Grant.

SECONDARY

Thirty-nine comprehensive school districts
 Nine regional comprehensive school districts
 Twenty-six regional vocational-technical schools
 Three county agricultural schools
 Three educational collaboratives
 Two urban vocational school districts
 One consortium (comprising two comprehensive schools)

SECONDARY, POSTSECONDARY AND ADULT OCCUPATIONAL PROGRAMS, SERVICES AND ACTIVITIES

POSTSECONDARY

Fifteen community colleges
Two-year colleges

The following are specific examples of programs, services, and/or activities conducted with Perkins funds at the secondary and postsecondary level. Note that the examples listed below focus upon curricula improvement and equipment upgrades. Additional examples of program improvement have been described in other sections of this report.

SECONDARY

- Improving the automotive technology programs by purchasing equipment such as four-wheel alignment machine which is required in order to meet the National Automotive Technicians Foundation, Inc. (NATEF) certification standards.
- Staff development for math, science, guidance and vocational-technical staff to develop integrated curricula.
- Upgrade graphic arts programs through the acquisition of desktop publishing software, personal computers and laser printers.

POSTSECONDARY

- Replace an inoperable and out-of-date x-ray machine as well as acquire interactive video equipment to be used as teaching tools in a medical radiology program.
- Improve a mental retardation program through curriculum revision, increased opportunities in field learning and instructional support.
- Improve an accounting program through the acquisition of up-to-date hardware, and computerized accounting software and the establishment of employer site training opportunities.

SINGLE PARENTS/DISPLACED HOMEMAKERS AND SINGLE PREGNANT WOMEN

The Massachusetts Department of Education issued a Request-for-Proposal targeted to public schools with five or more state-approved vocational-technical programs and the states' public two-year colleges for the purpose of providing preparatory services including recruitment, assessment, instruction in basic academic skills, career guidance/counseling and vocational-technical skills training targeted to single parents, displaced homemakers and single pregnant women in order to give them marketable skills leading to economic self-sufficiency.

Twenty-one institutions (seven regional vocational-technical schools and fourteen colleges) were awarded grants for a total of \$1,497,015 in Perkins funds to provide services. One college offered a preparation and support service program and the remaining twenty institutions offered programs with a major skills training component linked with appropriate supportive services including career guidance and counseling. Several schools offered numerous skills training options by integrating single parents, displaced homemakers and single pregnant women with high school students in vocational-technical education programs offered during the day and during the traditional school year.

Schools and colleges receiving grant awards have made cooperative arrangements with other agencies and community-based organizations to provide coordinated support services to program participants. Most programs coordinated with the Bay State Centers for Displaced Homemakers to provide information, referral and support services. Local offices of the Department of Public Welfare provided welfare recipients with needed services and resources.

SINGLE PARENTS/DISPLACED HOMEMAKERS AND SINGLE PREGNANT WOMEN

12

FISCAL YEAR 1992 **Federal Funds Awarded** **\$1,497,015**
SUMMARY

PROGRAMS FOR **# of Projects**
SINGLE PARENTS

Educational Levels
Postsecondary/Adult 21

Types of Services Provided
Skills Training 1
Academic Support/Preparatory 1
Services
Guidance and Counseling All
Services for Program
Participants

Types of Services Providers
Regional Vocational-Technical 7
Schools
Two-Year Colleges 12

**SKILLS TRAINING
FOR PARENTS AND
HOMEMAKERS**

<u># of Projects</u>	<u>Skills Training Areas</u>
5	Multiple Occupational Training Areas
5	Allied Health
2	Secretarial & Related
2	Computer Operations
1	Accounting & Bookkeeping
1	Microcomputer Application
1	Drafting
1	Electronics
1	Financial Services
1	Ophthalmic Technician

SEX EQUITY PROGRAMS

**STATE
LEADERSHIP
ACTIVITIES
AND ACHIEVEMENT**

Massachusetts' efforts to reduce sex bias and sex stereotyping in vocational-technical programs for Fiscal Year 1992 involved three major activities; (a) the Division of Occupational Education's statewide coordination, monitoring and direct technical assistance, (b) individual model sex equity projects developed and operated by local school districts, and (c) review of service providers' Local Plans for Occupational Education to ensure the needs of women and men for training in nontraditional jobs are met.

Title II requires that no less than three percent of the basic grant be used for model Programs which provide support services to students in vocational-technical programs that are nontraditional for their gender. Perkins also requires the promotion of sex equity in all vocational-technical programs.

**SEX EQUITY
PROJECTS**

In Fiscal Year 1992, Massachusetts awarded \$699,287 to fund 17 sex equity projects in urban school districts. Proposals were submitted in response to a statewide competitive request for proposals to develop model strategies to recruit, retain and place students in nontraditional new and emerging occupational fields. Training opportunities, videos and/or slide tapes about nontraditional opportunities by gender were produced along with sex equity curricula, questionnaires, newsletters, surveys, brochures and in-service training materials. These resources were disseminated and exhibited at the statewide support group leaders meetings and through the Massachusetts Vocational Curriculum Resource Center. Those schools implementing exploratory programs, nontraditional support groups and in-service training for administrators, teachers and counselors, met with the most success.

**PRIVATE SECTOR
COORDINATION**

The private sector played a key role in the implementation of sex equity projects. During Fiscal Year 1992, cooperative efforts with the private sector involved the following activities:

- Several sex equity projects coordinated with the private sector by developing linkages with nontraditional workers in area industries.

- A number of project coordinators invited nontraditional role models in industry to their schools to address and/or serve as mentors to the students in nontraditional peer support groups.
- Videos and brochures portraying students in nontraditional occupations for their gender were developed and disseminated to members of the general public including area Chambers of Commerce.
- Active efforts were made to recruit nontraditional members to sex equity project advisory committees.
- Field trips were conducted to work sites where students observed and shadowed workers nontraditional for their gender.

LEADERSHIP ACTIVITIES

The Sex Equity Specialist in the Division of Occupational Education coordinated statewide efforts to reduce sex bias and sex stereotyping in vocational-technical programs. During Fiscal Year 1992, the sex equity specialist's major activities included the following:

- Developed and disseminated the sex equity request-for-proposals, provided grant development technical assistance, reviewed and recommended proposals for funding.
- Coordinated the admissions plan process in vocational-technical schools and for those districts that have five or more state approved vocational-technical programs. Provided technical support to school district staff as well as Occupational Education staff responsible for the admissions process with a focus on "active efforts" to recruit, retain, and place students in programs nontraditional for their gender.
- Provided technical assistance to Division of Occupational Education staff on the revision process for approved admission plans, conducting admissions and sex equity projects on-site visits, and on using current equity resources, and provided assistance to the Division staff member who administers the single parents/displaced homemaker programs.

- Coordinated with the consumer and homemaking specialist to encourage consumer and homemaking education grant applicants to address sex equity concerns such as preparing both males and females as a wage earner and homemaker.
- Provided technical assistance to local educators, agencies and school districts,
- Participated in four state workshops on the Perkins Act.
- Conducted a workshop at the annual state Professional Development Conference for vocational educators on sex equity.
- Provided leadership and technical assistance to the statewide Nontraditional Support Group Leaders Equity Network.
- Provided technical assistance to staff of sex equity projects funded at school districts.
- Participated in the planning of a "Special Populations" conference co-sponsored by the University of Massachusetts and the Division of Occupational Education and was a presenter on a panel at the conference.
- Provided assistance to Division of Occupational Education staff to ensure that all Local Plans for Occupational Education address equity issues and concerns.
- Participated in a meeting of Region I New England Equity Coordinators with the Women's Bureau, United States Department of Labor to discuss measurable performance standards, including new initiatives for interagency coordination and infusion of sex equity into plans.
- Provided sex equity measures and standards for inclusion in the statewide system of state performance measures and standards for vocational-technical programs.

CRIMINAL OFFENDERS IN CORRECTIONS INSTITUTIONS

The Massachusetts Department of Education designated the Massachusetts Department of Corrections to administer vocational-technical education programs assisted under the Perkins Act for juvenile and adult criminal offenders in correctional institutions in the state, including state institutions and county houses of corrections.

The Department of Corrections gave special consideration to providing services to male and female offenders who were completing their sentences and preparing for release.

The Department of Corrections funded 15 institutions (three state institutions for adults, one state institution for youth and eleven county houses of correction) to provide assessment, career guidance and counseling and occupational skills training to 585 inmates. Fifteen projects were funded for a total of \$215,900.

Fiscal 1992 Summary

<u># of Projects</u>	<u>Skills Training Project</u>
1	Air Conditioning
2	Auto Mechanics
2	Carpentry
1	Computer Info Systems
1	Construction, other
1	Drafting
1	Electronics
1	Food
3	Graphics
1	Micro-computer Applications
1	Nursery Operations

SPECIAL POPULATIONS

In this section of the report, the Commonwealth of Massachusetts' many activities and achievements to ensure full program accessibility, retention and quality programming for students who are members of special populations will be outlined.

DEFINITIONS

- The term 'Special Populations' includes individuals with handicaps, educationally and economically disadvantaged, individuals (including foster children), individuals of limited English proficiency, individuals who participate in programs designed to eliminate sex bias and individuals in correctional institutions.
- Individuals with handicaps refers to any individual who - (i) has a physical or mental impairment that substantially limits one or more of the major life activities of that individual; (ii) has a record of the impairment described in paragraph (i) of this definition; or (iii) is regarded as having an impairment described in paragraph (1) of this definition; (2) any individual who has been evaluated under Part B of Americans with Disabilities Act and determined to be an individual with a disability who is in need of special education and related services; or (3) any individual who is considered to be disabled under Section 504 of the Rehabilitation Act of 1973. In Massachusetts, Chapter 766, the special education law is designed to define the needs of disabled students in a broad and flexible manner, to minimize stigmatization, and to maximize the students' opportunities for educational attainment. Students receiving services under Chapter 766 are required to have an Individualized Education Plan (IEP) which describes the special education and related services which the student requires including suggested methodology and teaching approach.
- Limited English proficient refers to individuals who are not born in the United States and whose native language is a language other than English which has had a significant impact on their level of English language proficiency.

By reason of this, they have difficulties speaking and understanding instruction in the English language and require special services, assistance, or programs in order to succeed in a regular education program.

- Disadvantaged refers to individuals (other than individuals with handicaps and having an Individualized Education Plan) who have an economic or academic disadvantage and who require special services and assistance in order to enable such individuals to succeed in educational programs. The term includes individuals who are members of economically disadvantaged families, migrants, and individuals who are dropouts, or who are identified as potential dropouts from secondary schools.
- The Massachusetts Department of Education is committed to ensuring that students who are members of special populations will be provided with equal access to recruitment, enrollment and placement activities. The Massachusetts Department of Education also requires that local educational agencies provide every student who is a member of a special population and who enrolls in a vocational-technical program with the following services to maximize opportunities for success:
 - An assessment of individual's interests, abilities, and special needs with respect to successfully completing their vocational-technical education program;
 - Special services, including adaption of curriculum, instructional practices, equipment and facilities to meet those needs;
 - Guidance, counseling and career development activities conducted by professionally trained counselors;
 - Counseling services designed to facilitate student's transition from school to work.

LOCAL PLAN

Each service provider receiving support under the Perkins Act was required to submit a Local Plan for Occupational Education. A critical component of the Local Plan is the section in the plan which the service provider described their assessment of the needs of students who are members of special populations and how the planned use of Perkins funds will meet those needs. In addition, service providers were required to address the following:

- A description of specific information on vocational-technical education programs which are provided to parents and students who are members of special populations;
- A description of students and parents who are members of special populations in the development, implementation and evaluation of vocational-technical programs through the Local Occupational Education Advisory Committee;
- A description of outreach recruitment and the process used to monitor the provisional progress of students who are members of special populations;
- A description of available supplementary services including curriculum modification, equipment modification, classroom modification, supportive personnel, and instructional aides and devices.

REVIEW OF THE
LOCAL PLAN

Each Local Plan was reviewed by a Department of Education Primary Reviewer, Sex Equity Specialist and Bureau Director to ensure that the needs of students who are members of special populations were fully addressed. In addition, other units in the Massachusetts Department of Education assisted in the review of Local Plans and those comments, concerns and recommendations were incorporated into the final approved plan.

<u>Unit</u>	<u># of Plans Reviewed</u>
Division of Special Education	11
Bureau of Equity and Language Services	35
Chapter 1	101

**SERVICES PROVIDED
TO SPECIAL
POPULATIONS**

During Fiscal Year 1992, students who are members of special populations were provided three main types of services with Perkins funding:

- Skills Training Support
- Academic Support
- Guidance and Counseling

**SKILLS TRAINING
SUPPORT**

Skills training support projects were designed to provide services needed for successful participation in a vocational-technical program. The majority of projects provided supplemental shop instruction and support, usually by an aide who assisted the regular shop instructor to provide additional instructional and tutorial assistance. Some projects also emphasized special supportive instruction by an individual instructor for a small number of students.

The following are specific examples of skills training services:

- a vocational-technical skills assistant who provided additional support to members of special populations enrolled in a building technology program;
- a bilingual shop aide who provided individual remedial and language support services for students enrolled in a food production program;
- a vocational-technical aide who assisted students in acquiring vocational competencies in a fashion design/merchandizing program.

ACADEMIC SUPPORT

Academic support is a vital service for students who are members of special populations, many of which are at risk of failing to complete their vocational program or of dropping out of school because they have not mastered the basic competencies in reading, writing, mathematics and science. These courses provide the foundation for vocational-technical education and for future life-long learning. Individual and small group tutoring were the most typical formats used by service providers. In some projects, remedial teachers were designated to provide specialized instruction for academically disadvantaged students. Most academic support occurred during the school day, but a number of service providers offered supplemental instruction after school or during the summer.

Many projects focused upon general reading and communications in addition to mathematics instruction using specialized instructional materials including computer assisted software, both for basic skills and to enhance problem solving and critical thinking skills. The hallmark of successful academic support projects was the close connection between academic and vocational-technical instruction.

The following are examples of service providers who provided academic support with Perkins funds:

- Two resource room aides who assisted study skills teachers in providing individualized academic support and assisted vocational-technical instructors to modify their programs according to the individual needs and learning styles of each student;
- An aide supported special education staff in teaching students with Individualized Education Plans (IED) basic skills using computer software;
- Academic support services for community college students enrolled in the accounting or nursing program. Support was offered in math, reading, study skills, and science. In addition, the project funded a bilingual aide to provide language support services to limited English students.

GUIDANCE AND COUNSELING

Guidance and counseling plays an increasingly indispensable role to assist students to make informed training and career choices and overcome some of the stereotypes associated with vocational-technical education. Through a number of guidance and counseling projects, students who were members of special populations received comprehensive assessments of their abilities, interests, and aptitudes. These assessments often included:

- standardized diagnostic testing;
- computer-assisted academic and vocational-technical assessment;
- counseling on vocational-technical program selections.

Many of the assessments were conducted at one of the state's five regional assessment centers (see Section XII for further detail).

Many projects concentrated primarily upon the behavioral, social, and emotional problems which impede students ability to successfully complete student's vocational-technical programs. Examples of these projects activities include:

- intensive individual counseling pertaining to the problems of substance abuse, pregnancy, alcoholism, family concerns, and poor academic performance;
- counseling on the development of appropriate social skills and personal behavior;
- mentor teachers to assist students in their educational and career plans.

A significant number of projects provided a full range of activities for students who are members of special populations to make informed training and career choices and to promote the development of career awareness, career planning, career decision-making, and job placement. These projects included:

- individual and small group counseling;
- computer-assisted career information systems;
- field trips to worksites;
- Shadowing experiences;
- practice completing job applications and mock job interview;
- specialized job placement and follow-up.

The following are specific examples of guidance and counseling services:

- an English as a foreign language coordinator who counseled limited English high school students, provided outreach into the community including churches and social service agencies and assisted in the assessment and placement of limited English students into community college vocational-technical programs;
- a drop-out counselor who contacted at-risk students and parents to improve student attendance. The counselor also formed a peer counseling group and parental support group for at-risk students.

**SPECIAL
POPULATIONS
COORDINATOR**

Twenty secondary and eight postsecondary institutions receiving support in Fiscal Year 1992 under the Perkins Act elected to hire a special populations coordinator. The coordinator's duties included counseling, assisting students in transitioning into a vocational-technical program, interventions with teachers, family conflict and crisis interventions in addition to coordinating existing academic, vocational-technical, social and community services for students who are members of special populations.

**PROGRAM
ACCESSIBILITY
MONITORING**

The Massachusetts Department of Education has a long and effective commitment to equal opportunity for all students including those who are members of special populations. This commitment is evidenced through a wide variety of civil rights enforcement activities. Activities which are designed to ensure civil rights laws and regulations compliance for local educational agencies that receive federal financial assistance through the Massachusetts Department of Education and operate a vocational-technical program as defined in the Perkins Act. Civil rights violations are identified through an agency level review (desk audit). Local Educational Agencies found to have the greatest number of potential violations will be selected for an on-site review. Site visits are conducted by inter-department teams made up of staff from every unit in the agency.

During Fiscal Year 1992, twenty on-site visits were conducted. Local Educational Agencies found to be in noncompliance were directed to develop a civil rights compliance plan to address and remediate areas of program and physical plant deficiencies.

STATE LEADERSHIP AND PROFESSIONAL DEVELOPMENT

COLLABORATION

Collaboration and coordination among the Massachusetts Department of Education, the private sector, and other local and state agencies in planning, operating, and evaluation of vocational-technical programs is a central feature of the vocational-technical delivery system in Massachusetts. During Fiscal Year 1992, the Department of Education continued its participation in a number of strategic committee and planning and policy groups which included:

- Apprenticeship Council
- Displaced Homemakers Advisory Committee
- Interagency Coordination Committee
- Commission For Occupational Education
- Department of Public Welfare's Jobs Initiative
- State Occupational Information Coordinating Committee
- State Council on Vocational Education
- Massachusetts Jobs Council

In addition, there are presently over 6,000 representatives of the employer community which serve on program and general advisory committees for state approved Chapter 74 vocational-technical education programs in 110 secondary schools. There are 750 private sector representatives who served as advisors to federally funded vocational-technical programs offered by secondary schools and community colleges.

COLLABORATION EXAMPLES

State Occupational Information Coordinating Committee (SOICC)

The Department of Education continued its partnership with the Department of Employment and Training and the Massachusetts Rehabilitation Commission for the development and dissemination of occupational/labor market information. The three member committee meets annually and a six member Technical Advisory Group (TAG) of agency staff members meet on a quarterly basis to establish priorities and review projects, and help to organize training services for agency staff, school, and community college staff.

State Council on Vocational Education (SCOVE)

The State Council on Vocational Education is an advisory group established through the Perkins Act and presently has twelve members which are appointed by the governor. The Council's duties include advising on the development of the State Plan, consulting on the development of criteria for evaluating programs, and recommending procedures for further involvement of business, industry, and labor in vocational-technical programs.

The Department of Education coordinated with the State Council throughout Fiscal Year 1992 through participation at SCOVE meetings, through the exchange of data, and through the review and analysis of SCOVE and department reports. SCOVE participated with Challenge to Leadership's Massachusetts Educational Inventory which was disseminated on November 7, 1991 at the Challenge to Leadership Conference. SCOVE also conducted a number of open forums on the first year's implementation of the new Perkins Act. The State Council and the Department jointly recognized outstanding vocational-technical advisory committees and vocational-technical advisory programs in nationally organized recognition efforts.

Mass Jobs Council (MJC)

The Mass Jobs Council is the state level organization appointed by the governor and is charged with the overall coordination of the state's employment and training system. The Mass Jobs Council includes heads of agencies involved in workforce development as well as representatives from the employer community and labor unions. During Fiscal Year 1992, the Mass Jobs Council was organized in three committees:

Oversight and Results
Strategic Planning
Regional Employment Board Development

The three committees of the Mass Jobs Council have identified key issues related to the Mass Jobs Council legislative charter and resources to stimulate economic growth in the state. During Fiscal Year 1992, the Mass Jobs Council established the Industry Clusters Project which focused upon addressing the training needs of those industry clusters that are most important to the economic future of the Commonwealth.

The Mass Jobs Council in Fiscal Year 1992 proposed a wage reporting system which would be coordinated through the State Occupational Information Committee and would be piloted during Fiscal Year 1993. The system would be established for the purposes of evaluating employment and earnings outcomes of programs within the Massachusetts workforce development system.

Department staff have played an important role in the leadership of the Mass Jobs Council and have provided data and other information to respond to policies proposed by the Mass Jobs Council.

Massachusetts Vocational Curriculum Resource Center

CURRICULUM

The Massachusetts Vocational Curriculum Resource Center (MVCRC) was established eleven years ago as a statewide vocational-technical resource center to make quality curriculum resources available to vocational-technical educators in Massachusetts. The major functions of the Center are to provide educators with direct access to national, state, local and commercially developed materials through the lending library and to provide professional development and in-service training for educators. The services of the Center include: a lending library of print and audio visual materials, workshops and in-service training, a newsletter, computerized database searching, and an informational and referral service.

The focus of the Massachusetts Curriculum Resource Center for Fiscal Year 1992 was in three areas:

- Curriculum dissemination
- Staff development
- Promotion of integrated academic and vocational-technical studies

CURRICULUM CONSORTIUM PARTICIPATION

The Massachusetts Curriculum Resource Center participates as a member to the Vocational-Technical Education Consortium of States (V-TECs) and has available on a dedicated microcomputer, in addition to hardcopy, the newly developed V-TECs Direct, an automated curriculum storage and retrieval system. The Center was also involved in a curriculum field test being conducted at Greater Lowell Regional Vocational-Technical School and at Southeastern Regional Vocational-Technical School.

**STRATEGIES
CONFERENCE***Professional Development*

The Massachusetts Vocational Curriculum Resource Center, Massachusetts Association of Vocational Administrators, State Council on Vocational Education, and Department of Education co-sponsored a "Breaking the Mold" conference for vocational-technical leaders on March 18 and 19, 1992. The conference focused on key educational reform initiatives including the SCANS Report, the Massachusetts Alliance for Education (MBAE) school reform proposal, "Every Child a Winner" and the governor's proposed Educational Reform Act. One hundred participants were guided through a strategies development process to respond to the "call" for educational change.

Vocational-Technical Teacher Training Program

One way in which Massachusetts ensures that vocational-technical instructors are well prepared is to require them to complete a sequence of twelve courses, totaling thirty-six credits, in order to receive full state approval as vocational-technical instructors. The twelve courses are taught using a competency-based education approach at three state colleges and universities.

New Teacher Workshops

During the last week of August, 1991, thirty-five new vocational-technical teachers and six teacher mentors attended a one day preservice workshop sponsored by the Department of Education at Assabet Valley Regional Vocational-Technical School. The purpose of the workshop was to orient new teachers, review the survival skills teacher-training tool kit materials, and discuss ways in which to support new teachers.

The field test involved test item development and task list revisions. The Massachusetts Vocational Resource Curriculum Center participates in the Center For Occupational Research and Development's Applied Academic Curricula and is a repository for all Applied Academics materials. These materials including videos for each unit are available on loan. Massachusetts Resource Curriculum Center continues as an active member of the National Network for Curriculum Coordination in Vocational-Technical Education (NNCCVTE).

In Fiscal Year 1992, 1,688 people visited the Center and over 6,000 items were loaned to educators from the Center's resources. The Center has placed a major emphasis in acquiring curricula materials in the areas of vocational-technical and academic integration and Tech-Prep education.

PROFESSIONAL DEVELOPMENT

Staff from the Massachusetts Vocational Curriculum Resource Center conducted over fifty staff development sessions for teachers and/or administrators.

<u>Area</u>	<u># of Sessions</u>	<u># of Participants</u>
Applied Academics	15	300
Integration	25	500
Tech-Prep	10	200

In addition to the sessions listed above, Massachusetts Vocational Curriculum Resource Center hosted two workshops for teachers planning to teach Principles of Technology, Applied Mathematics, and Applied Biology/Chemistry. Finally, the Center Director participated in the Vocational-Technical Educator's Professional Development Conference at Fitchburg State College.

Annual Professional Development Conference

The 79th Annual Vocational-Technical Professional Development Conference was held concurrently at Fitchburg State College, Montachusett Regional Vocational-Technical High School, and the Sheraton Leominster Hotel located in Leominster on June 28 through July 2, 1992. The theme of the conference was "World Class Education: A Challenge for Change." Over 750 vocational-technical educators attended the three day conference and participated in one of the 130 workshops or special interest sessions.

**TECHNICAL
COMMITTEES**

Two major statewide technical committees were in operation during Fiscal Year 1992. These special committees include business, industry, and labor representatives in a specific occupational domain; vocational-technical teachers serve as advisors to each committee. The Automotive Technical Committee was expanded during Fiscal Year 1992 to include auto body repair technology.

The Automotive Technical Committee met on two occasions during the July 1, 1991 - June 30, 1992 period. The fall, 1991 meeting covered industry standards for new technology, a validation of statewide competencies for automotive technology, several reports on program improvement in vocational-technical education, and a review of the technical training initiative. The Automotive Technical Committee launched an effort to site short term industry training programs at vocational-technical schools so that students, teachers, and automotive mechanics can access industry standard training.

The May 7, 1992 meeting of the Automotive Technical Committee included both a regular meeting agenda and a special presentation by Dr. Byrl Shoemaker of the National Automotive Technicians Education Foundation (NATEF). The committee structure was officially expanded to incorporate auto body repair and three new members were added to reflect this new component. Ron Fitzgerald, Superintendent-Director, Minuteman Regional Vocational-Technical School, presented a report on the counsellor in-service project that he directs. A status report on the National Automotive Technicians Education Foundation process in Massachusetts was provided and a special award to Greater Lowell Regional Vocational-Technical School was presented in recognition of that school's achievement of full National Automotive Technicians Education Foundation certification in auto body repair. Greater Lowell Regional Vocational-Technical School is the first school to achieve National Automotive Technicians Education Foundation certification in two program areas. Dr. Shoemaker's report covered a special NATEF effort to link industry training programs with NATEF certified vocational-technical schools.

The first meeting of the Graphic Communications Technical Committee was conducted on April 7, 1992 at Blue Hills Regional Vocational-Technical School. Twelve representatives of the printing industry, including the Printing Industries of New England, participated in this organizational meeting. Three vocational-technical teachers serve as technical advisors to this statewide committee. The primary focus of this meeting was the national report on the printing industry published by the Printing Industries of America. The committee members agreed to evaluate the list of competencies for occupations in the industry that was included in this national report. The next committee meeting was scheduled for the fall, 1992.

NEEDS ASSESSMENT STUDY

An eighteen month research project was funded on a competitive basis to the Donahue Institute for Governmental Services, University of Massachusetts, to conduct a statewide needs assessment of vocational-technical education with a focus on the assessment requirements of the new Perkins Act. This study included a detailed analysis of available data, review of local plans for vocational-technical education, and surveys of students, teachers, counsellors, administrators, and workplace representatives. The final report will be available in January, 1993 and the findings of this study will form the basis for the development of the State Plan for Vocational-Technical Education for Fiscal Years 1995-1996.

PRODUCT DEVELOPMENT

During Fiscal Year 1992, two projects were funded to prepare education specifications and develop statewide analysis of the need for new vocational-technical program areas which offer evidence of growth in quality occupations that do not require a baccalaureate for entry. Occupational analysis of the program area included: specific labor market projections by geographic location, entry requirements and current labor market supply. The project reports were also required to develop competency lists for entry and advancement in these high demand occupations.

FUNDED PROJECTS

*Biomanufacturing in Massachusetts:
An Assessment and Educational Analysis*
Prepared by Minuteman Regional Vocational-
Technical School District

*A Partnership Approach to Industrial
Technology Education*
Prepared by Bay State Skills Corporation

**VOCATIONAL
STUDENT
ORGANIZATIONS**

During Fiscal Year 1992 more than 7,000 students in approximately 105 high schools were served by six vocational student organizations (VSOs) in Massachusetts. All are nationally affiliated and recognized by the United States Department of Education as co-curricular and an integral part of student's vocational-technical education program. At least two of the Massachusetts Vocational Student Organizations are recognized nationally for their program of student activities. These student organizations are:

- Distributive Education Clubs of America (DECA)
- Future Farmers of America (FFA)
- Vocational Industrial Clubs of America (VICA)
- Home Economics Related Occupations (HERO)
- Future Business Leaders of America (FBLA)
- Business Professionals of America (BPA)

Each vocational-technical school organization conducted organized activities for students to gain personal and leadership skills, self-esteem, and self-confidence, making them more employable, preparing them to become productive citizens, and assisting them in assuming positive roles in the community.

Title III, Part A provides assistance for vocational programs by community-based organizations. During Fiscal Year 1992, Massachusetts awarded \$346,157 to fund twelve urban community-based organization projects.

**REQUIRED
SERVICES**

- Promotion of interagency collaboration between community-based organizations and local public schools for the purpose of serving more racial and linguistic minority youth, especially those whose families are receiving public assistance in modified or regular vocational-technical education programs through the use of supplemented and support services.
- Provide special counseling diagnostic, evaluation and support services to disadvantaged students enrolled in public school intensive vocational-technical education programs that result in racial and linguistic minority students acquiring a better understanding of:
 - a. their aptitudes, interest and learning abilities;
 - b. the need to improve their self-concept and not make occupational choices based upon ethnic, racial, cultural, and/or sex bias or stereotypes;
 - c. the importance of remaining in, or returning to school and acquiring a skill that leads to employment have the minimum wage;
 - d. problem solving and mediation skills to increase students' ability to effectively interact with peers and adults.
- Inclusion of drop-out prevention services to students currently enrolled in vocational-technical programs particularly male and female teenage parents.
- Implementation of Occupational Education/Employment and Training statewide initiative designed to encourage providers of training programs to offer or expand existing supplemental and supportive services for persons ages six through twenty-one receiving public assistance.

- Provision of outreach services to economically and/or academically disadvantaged racial and linguistic minority youth that result in an increased number of students entering into and completing intensive vocational-technical education programs. Particular emphasis to be placed upon licensed apprenticeship and high demand, high technology occupations.
- Provision of remedial education services for economically and/or academically racial and linguistic minority youth which directed related to the completion of their vocational-technical program. These services included: individual and group tutoring and training in the art of communicating effectively in the English language.

PART IX

CONSUMER AND HOMEMAKER EDUCATION ACCOMPLISHMENTS

37

Title III, Part B of the Perkins Act authorizes funds for Consumer and Homemaking Education. Massachusetts awarded these funds to school districts to develop consumer and homemaking education programs that encourage both males' and females' preparation as a homemaker and wage earner. All consumer and homemaking education programs were targeted to pregnant and parenting teenagers or to refugees. Priority was given to programs in consumer education, food and nutrition, family life education, parenting education, development and guidance, housing and some management and programs to prevent abuse, spouse abuse, and substance abuse.

FISCAL YEAR 1992 SUMMARY

Consumer and Homemaking Education

Federal Funds Awarded \$924,468

of Projects

Educational Levels
Secondary

32

Types of Service Providers

City/Town	21
Regional HS	2
Regional Vo-Tech HS	8
Ed. Collaborative	1
Colleges/Universities	2

Types of Communities (Urban)

Economically Depressed	16
Non-Depressed	16

STATE LEADERSHIP ACTIVITIES AND ACHIEVEMENTS

A statewide leadership grant was awarded to the University of Massachusetts, Boston. The University of Massachusetts collaborated with the University of Massachusetts at Amherst, and Framingham State College in conducting two statewide conferences for home economics teachers. The grant was for \$21,276

- "Options and Opportunities" at the 4H Club in Ashland on August 5-6, 1991
Attendance: 50
 - "Creative Thinking in Hard Times" at Framingham State College on March 17, 1992
Attendance: 110
-

Consumer and Homemaking personnel attended the annual professional development conference at Fitchburg State College, June 29-July 2, 1992. Approximately 20% of conference participants attended these workshops and were able to hear and participate with speakers on new and emerging issues affecting the home economic field. Topics included:

- Diet: putting theory into practice
- Hydroponics-Advanced technology in food production
- Overview of domestic violence
- Child care programs in public schools

STATEWIDE ACTIVITIES AND ACHIEVEMENTS

In Fiscal Year 1992 funds were awarded on a competitive basis to consumer and homemaking programs in economically depressed and non-depressed communities. In Massachusetts, indices were constructed which compared each community with statewide averages on three measures of economic depression: concentration of low-income individuals, tax-raising ability, and unemployment rates. If a community's index fell above 115% of the statewide average for at least two out of three measures, the community was identified as economically depressed.

Sixteen consumer and homemaking projects were funded in economically depressed communities in Fiscal Year 1992. The total dollar amount was \$439,966. Sixteen grants went to non-depressed communities for a total of \$445,051. All projects for pregnant and parenting teens were comprehensive and multifaceted and sought to address the many physical developmental, educational, vocational, and social-emotional members of these teens and their children. Many projects encouraged the participation of both teenage mothers and teenage fathers.

The projects included the following characteristics:

- Instruction, support and role-playing activities in development and parenthood responsibilities;
- "Life Skills" training in topics such as nutrition, budgeting, consumerism, and decision-making;
- Vocational support and career planning;
- Counseling and support groups dealing with issues such as stress management;
- Child care services, either on-site at the school or through vouchers provided by the Department of Social Services or Department of Public Welfare;
- Collaboration with social service agencies including referrals, outreach, and advocacy;
- Home visits by project staff and health care workers;
- Instruction and support in prenatal and postnatal care.

Many important outcomes were documented: a decreased number of student dropouts, increased understanding of child care practices (as determined by pretests and post-tests and observations), an improved prenatal care for pregnant teens that resulted in good birth weights.

LEADERSHIP ACTIVITIES

As a result of Consumer and Homemaking Education Leadership Coordinator's activities, the following were accomplished during Fiscal Year 1992.

- Draft standards for Home Economics Education were piloted in four public high schools: Methuen High School, Nashoba Valley Regional High School, Pioneer Valley Regional High School, Northampton High School;
- A Consumer Homemaking Committee was established to examine long range Consumer and Homemaking issues. The committee included participation by business and industry representatives;

- State standards were developed for international education; space workshop presentations;
- Multi-cultural and global education;
- Accessing funds for public/private sector;
- Grants writing;

**SEX EQUITY
COLLABORATION**

- Attended the statewide Nontraditional Support Group Leaders Equity Network meetings;
- Gave presentations to statewide Nontraditional Group Leaders Equity Network
 - Cultural differences and global education
 - Sex Equity in relation to home economics

PART X

TECH-PREP PROGRAMS

41

REQUEST-FOR- PROPOSALS TECH-PREP

The Massachusetts Department of Education issued a Request for Proposals for the funding of eligible consortia of public school districts and institutions of higher education with vocational-technical education programs to develop and implement four year programs designed to provide a competency-based tech-prep education program leading to a two-year degree, certificate, or apprenticeship.

Eleven consortia consisting of 82 secondary schools and postsecondary institutions were awarded a total of \$1,162,116 in Perkins funds to develop and implement Tech-Prep programs consisting of curriculum development and modification, staff development, recruitment, student retention and placement employment.

Fiscal Year 1992 Membership Summary

<u>Consortium Name</u>	<u># of members</u>
Berkshire Tech-Prep	6
Bristol Tech-Prep	13
Metro West Tech-Prep	3
Cape Cod Tech-Prep	3
Tech-Prep West	11
Merrimack Valley Tech-Prep	6
Metro West	6
Mt. Wachusett Community	7
North Shore Tech-Prep	9
Southeast Tech-Prep	12
Worcester Tech-Prep	6

LEADERSHIP ACTIVITIES:

Two statewide Tech-Prep conferences were conducted with a total 500 conferees attending the day-long sessions. The focus of the conference was on implementation strategies including Applied Academics, program articulation, promotion and guidance and support services to Tech-Prep students. The conferences focused on exemplary practices and programs both nation-wide and in the Commonwealth of Massachusetts. Both conferences were held at Holy Cross College in Worcester. In addition, numerous presentations on Tech-Prep were made to state policymakers such as the Massachusetts Jobs Council, education associations, including the Massachusetts Association of School Superintendents, State Association of Schools and Colleges, Regional Employment Board Chairs, State Council on Vocational Education, and other educational organizations.

Each Consortium has a Perkins funded coordinator who is charged with program development oversight at the secondary and postsecondary level. Coordinators meet monthly with the state Tech-Prep Coordinator to review policy, share information and set program priorities. Of the eleven consortia, two received planning grants and the remaining nine received implementation grants. The two consortia receiving planning grants focused on staff and administration professional development activities including team building, developing information packages and curricula alignment. Those consortia with implementation grants focused upon curricula development, establishing data systems and articulation agreements, services to special populations, and establishing an overall vision for Tech-Prep amongst member schools. In Massachusetts the following eight elements are required for all Tech-Prep programs:

- 1 Partnerships between secondary schools, postsecondary institutions and the employer community in a specific career field.
- 2 Leads to a two-year degree, certificate or apprenticeship program.
- 3 Allied/contextual learning in math, science and communications.
- 4 Articulation agreements in which credit is awarded toward graduation. No fees may be charged for this credit.
- 5 Competency-based curriculum.
- 6 Integrated academic and vocational-technical curriculum.
- 7 Support services to special populations including student assessment, retention and placement upon graduation from a vocational-technical program.
- 8 Preparatory services including student recruitment, counseling, outreach, and career awareness.

INTEGRATING APPLIED ACADEMICS INTO VOCATIONAL-TECHNICAL EDUCATION PROGRAMS

FISCAL YEAR 1992-1994 LOCAL PLAN

Service providers eligible to receive Perkins funds as required under the Act were requested to develop a Local Plan for Occupational Education - Fiscal Year 1992-1994. School districts and community colleges were required to conduct a needs assessment which described their current status and present what improvement is planned for Fiscal Year 1992-1994 for ten individual factors including the integration of academic and vocational-technical education. Service providers were further required to describe how proposed programs are integrating academic and vocational-technical disciplines so that students participating in the program are able to achieve both academic and occupational competence. A powerful tool in integration is the use of Applied Academics (Applied Biology/Chemistry, Communications, Mathematics and Principles of Technology) contextual learning strategies.

STATE REQUIREMENTS FOR INTEGRATION

Newly promulgated regulations for Vocational-Technical Education in Massachusetts call for state approved Chapter 74 programs to integrate the curricula of academic and vocational-technical education programs and that by June 30, 1993, all school districts with approved vocational-technical education programs must submit an integrated education plan to the Department. Any subsequent amendments to this plan must be approved by the Department of Education.

STATE LEADERSHIP AND STAFF DEVELOPMENT

In Fiscal Year 1992 the Department of Education with the assistance of the Massachusetts Vocational Curriculum Resource Center sponsored and hosted a series of staff development workshops for integrating academic and vocational-technical education and Applied Academics.

- Integration - 25 sessions including 500 teachers and administrators.
- Applied Academics - 15 sessions including 300 teachers and administrators.

INTEGRATING APPLIED ACADEMICS INTO VOCATIONAL-TECHNICAL EDUCATION PROGRAMS

44

APPLIED ACADEMICS

During Fiscal Year 1992, Massachusetts continued to play a strong leadership role in the multi-state consortia formed to develop, field test, and disseminate applied academics curricula. Two teachers from Massachusetts served on the project review teams for new applied biology chemistry units developed by the Center for Occupational Research and Development in Waco, Texas. The lead teacher at Blue Hills Regional Vocational-Technical school in addition to serving on the project review team was extensively involved in training biology and chemistry teachers in Massachusetts and in other states. Five school districts were awarded \$5,000 contracts to field test new biology/chemistry units throughout the school year. Six school districts were selected and received \$5,000 contracts to field test the eleven additional units of applied mathematics curricula which were planned for release during Fiscal Year 1992. This national field testing will complete this project and will provide (33 units) a full two years of applied mathematics curricula for high school students. During the year, staff from the eleven field test sites convened at three sessions to share experiences and insights in implementing the new applied academics units.

At the close of Fiscal Year 1992, over sixty school districts in Massachusetts were using applied academics curricula. A comprehensive state survey is planned for Fiscal Year 1993 to determine the current level of applied academics utilization by comprehensive and vocational-Technical school districts.

STATE LEADERSHIP

A member of the Department of Education collaborated in the design and development of an academic and vocational-technical education integration application which was submitted to the National Center in Berkeley, California. Somerville Public Schools along with nine other urban school districts was selected to participate in an extensive training program funded by the Center. The team representing Somerville comprised teaching staff from both academic and vocational disciplines, school administrators as well as the Department of Education representative. The team has scheduled in-service activities, curricula development and workshops into Fiscal Year 1993.

Career guidance and counseling includes organized services and activities for students about to enter, currently enrolled in, or graduating from vocational-technical programs. Services and activities include those which provide students assistance for making vocational-technical education program selections, career decisions and for those students electing postsecondary education, information on available programs including those which have Tech-Prep articulation agreements. Postsecondary education guidance and counselling services will play an increasingly important role as all eleven Massachusetts Tech-Prep Consortia move from the planning phase to full program implementation in eighty-two secondary schools and twenty postsecondary institutions.

A recent trend in vocational-technical education is the growth in the number of students who elect postsecondary education upon graduation from a vocational-technical program. A recent study of graduates from state-aided vocational-technical programs reports that 27% of the graduating seniors continued their education beyond high school. This compares with 18.4% for 1988 graduates. A portion of this increase may be attributed to the continued weakness in the state's economy, however, a more significant factor is the increased academic and skill requirements for the Massachusetts 1990's workforce.

For Fiscal Year 1992, 2.2 million was expended to provide a wide variety of guidance and counseling services for students enrolled in vocational-technical programs.

ASSESSMENT

Upon acceptance into state approved vocational-technical programs, all students are required to be assessed to determine individual differences and needs in order to maximize prospects of successfully acquiring fundamental competencies associated with the programs. The Perkins Act further requires that local recipients assess the needs of individuals who are members of special populations. Five regional assessment centers have been established to provide assessment services across the state.

These centers are located at Greater Lawrence Regional Vocational-Technical High School, Pathfinder Regional Vocational-Technical High School, Cape Cod Regional Vocational-Technical High School and Quincy Center for Technical Education. The centers provide on and off-site assessment services. In addition, each center assists participating school districts and adult service agencies in the design of assessment and career counseling programs. The assessment process includes an interest inventory, vocational-technical aptitude and academic skills test which is used to develop a computerized student assessment profile. Center staff also assist teachers, guidance counselors and program administrators to utilize the data. A total of 4,068 middle and high school students and 365 adults received assessment services during Fiscal Year 1992.

**MIDDLE SCHOOL
COUNSELING**

An important project funded during Fiscal Year 1992 was the "Workshops for Middle School Counselors." Funded at Minuteman Regional Vocational-Technical School, this project was designed to provide an increased middle school counselors awareness of the scope and educational opportunities in vocational-technical education. Project accomplishments include five regional counselors meetings, the development of a promotional video and slide set, guidance packages and informational flyers in both English and Spanish. To date over 40,000 flyers have been distributed across the state.

APPENDIX A

**DESCRIPTIONS OF OUTSTANDING PROJECTS
IMPLEMENTED IN MASSACHUSETTS**

FISCAL YEAR 1992

Mechanical Design Technology

Lynn Vocational-Technical School

The main purpose of this project was to introduce modeling concepts to the students in the Machine Drafting Course at Lynn Vocational Technical Institute. **Twenty-nine students were enrolled in the program with no drop-outs and there was a 100% placement rate for graduating seniors.** These concepts were introduced utilizing state-of-the-art computers and advanced Computer Assisted Design Drafting (C.A.D.D.) software. The combination of hardware and software allowed students an opportunity to receive hands-on training on the same equipment used by industry.

Students received 500-1000 hands-on hours of training using state-of-the-art equipment. The training took place during and after normal school hours. Many students participated in the C.A.T. (Career Awareness Training) team. These students reached out to K-6 and middle school students providing hands-on demonstrations using Parent Teacher Organization meetings or open house nights at both Lynn Vocational Technical Institute and participating elementary and middle schools. This program offered parents and pre-high school level students exposure to the opportunities available through vocational-technical education.

Using the C.A.D.D. equipment available at Lynn Vocational Technical Institute, computer training was offered to the following community agencies outside the school:

1. Regional Employment Board - offering training to displaced workers (20 week/300 hours).
2. North Shore Employment and Training Agency - offering special population students from surrounding schools their first exposure to C.A.D.D. in a seven week (30 hours/week) summer training session.
3. Girls Incorporated (formerly the Girls Club of Lynn) - familiarizing girls with the field of Drafting/C.A.D.D. (as a result, a large number of nontraditional students have become interested in the field of engineering).
4. Computervision/Prime Computer provided technical support and training for school at no cost.

Conduit Threading/Electrical

Blue Hills Regional Vocational-Technical School

The main purpose of the project was the replacement of equipment which was 17 years old and had been used to teach conduit threading for electrical work. This skill was previously taught without the aid of an automatic oiler.

The focus of the project was to introduce the 10th, 11th and 12th grade students cutting, reaming and threading electrical conduit. This raceway is used by the electrical industry in commercial residential applications to run wires for light, heat and power systems. It is used in factories on walls and ceilings and can also be used in the floor or buried outside in the ground between buildings.

All phases of the electrical industry use this type of raceway. By teaching how automatic threading, cutting and reaming equipment operates, students are prepared for technology used in industry. Both male and female students now have the opportunity to gain these necessary skills for employment in the electrical industry.

In order for this project to be successful, it was necessary to integrate Math and Science throughout the curriculum. The vocational and math and science instructors met throughout the year to coordinate the delivery of instructional services.

The results of the project include a 100% completion rate along with a 91% placement rate for graduating seniors. Because this type of training is not available in a number of area vocational-technical schools, Blue Hills electrical program has become a model for electrical teachers in other schools to observe how the curriculum is being implemented.

Project Finance

Greater Lowell Regional Vocational-technical School

Project Finance provided students in data processing, business and office occupations, marketing education, and hotel/lodging with related instruction in the area of financial services. Approximately 220 students studied related subjects such as accounting, microcomputer applications and business applications. In addition, sixteen students received hands-on-training while operating a branch of the Lowell Five Cent Savings Bank which is housed at the school. The bank along with retail clothing stores, a gift shop, and a function room make up the Greater Lowell's Marketing Education Mall which attracted over 30,000 customers from communities along the Massachusetts-New Hampshire state line and in Fiscal Year 1992 posted sales of more than \$160,000.

Greater Lowell Regional Vocational-Technical School and the Lowell Five Cent Savings Bank recently received an outstanding public-private partnership award and two senior students were hired by the bank as trainers to teach banking skills to junior students in the program. The program also achieved a 100% completion rate for the sixteen students enrolled in the banking program. Four students entered training related employment and twelve entered further training or education upon graduation.

Medical Laboratory Technology Support
Bristol Community College

This program prepared students for employment in hospitals or private laboratories, physician's offices and for industrial and research facilities.

The integrated curriculum gave students a solid background in general education along with the practical skills needed to work in a modern clinical laboratory. Clinical placements in Southeastern Massachusetts hospitals offered students an opportunity to reinforce their classroom learning and make contacts for future employment. Affiliate hospitals include: Cape Cod Hospitals, Charlton Memorial Hospital, the Jordan Hospital, St. Anne's Hospital, Sturdy Memorial Hospital, Morton Hospital, and St. Luke's Hospital. Students spend a total of 544 hours in clinical affiliates laboratory during their two year program.

The Medical Laboratory Technology Support project provided a variety of academic support services to students who are enrolled in the Medical Laboratory Technology program and who are members of "Special Populations," i.e. educationally and academically disadvantaged, handicapped students, Limited English Proficient students and students who are not properly served because of sex bias.

Services provided include: intake assessment, consultation with instructors, individual peer tutoring and group supplemental instruction, academic advisement, individual career ladders for both sexes and diverse ethnic groups.

The job market for well-trained medical laboratory technicians remains strong, and over 90 percent of recent Bristol Community College graduates have secured employment or are continuing their education at four year colleges and universities in the areas. The number of affiliate hospitals and laboratories increased from six to seven in Fiscal Year 1992, thus providing additional opportunities for integration of academic and vocational training. A pilot phlebotomy program was successfully offered in the spring of 1991. Nineteen students completed the 17 week program and 18 are now employed as phlebotomists. The partnership with a cooperative education program at the college continues to expand. A program which is nontraditional for males, Bristol Community College's medical laboratory technology program has 34% male students.

SP/DH Training

Assabet Valley Regional Vocational-Technical School

The purpose of Assabet's SP/DH Training Program was to provide preparatory services recruitment, assessment, instruction in basic academic and occupational skills, career guidance and counseling, transportation, and special services to economically disadvantaged individuals. The SP/DH Program offers 30 hours per week of daytime training with an outcome of a 1,000 Hour Vocational Certificate of Proficiency and a GED or improved basic academic skills.

Major features of the project include:

"Hands-on training" with a choice of twelve occupational skills options.

A flexible enrollment policy made possible by a competency based curriculum.

Preparatory and support services that are offered on-site.

A full-time program with training hours designed to replicate world of work hours.

Three of the twelve occupational skills training options offer articulation agreements with Quinsigamond Community College; they are Electronic Equipment Repair, Computer Programmer, and Chef/Cook.

A comprehensive program which combines basic academic and occupational skills.

An assessment model in which adults "plug into" the basic academic and occupational skills training at their own individualized levels.

A coordinated program advisory committee comprised of local and regional agency directors for targeted populations that is in place for recruitment, program development/improvement, and support. Agencies include: Bay State Centers for Displaced Homemakers, Head Start, Welfare, Job Training Partnership Act, Division of Employment Training, Adult Learning Centers, Massachusetts Rehabilitation Commission, and Child Care Search.

Major accomplishments include:

One SP/DH program enrollee was invited to report on Assabet's SP/DH 1991-1992 Perkins funded program at a workshop entitled "Head Start Employability Work Group" on March 5-6, 1992 in Washington, D.C.

Outstanding Projects - Single Parents, Displaced Homemakers, and Single Pregnant Women

54

SP/DH Training

Assabet Valley Regional Vocational-Technical Schools (Continued)

A second SP/HD enrollee was nominated for the 1992 Massachusetts State Council on Vocational Education's Outstanding Postsecondary Student Award; this enrollee also gave the June 1992 Assabet Adult Graduation address.

Assabet's SP/DH Recruiter-Counselor gave a presentation to the Framingham Regional (Southern Middlesex Opportunity Counsel) Vocational Education Task Force meeting.

Of 37 SP/DH Participants, 86% were classified as economically disadvantaged. Thirty-one participants completed the program with an 84% placement rate.

Women in Transition Program

Cape Cod Community College

The purpose of the Women in Transition (WIT) program at Cape Cod Community College was to serve economically disadvantaged single parents, displaced homemakers, pregnant single women, prior criminal offenders and unemployed or underemployed individuals. During FY 92 the project served 172 students, with a 96% completion rate. Of that total 97% or 160 students went on to further training or education. WIT fostered the personal and professional development of these targeted populations by providing counseling, training, on-going programs, special events, conferences, workshops, seminars, resource materials and referral services.

Women in Transition recognized that many women who desire higher education struggle with families, jobs, other responsibilities or less tangible obstacles in addition to classes and studies. An innovative academic and career development program for women who are beginning or returning to undergraduate school. Women in Transition helped women maintain balance in their personal lives while adjusting to the demands of academic life.

Women in Transition students have the flexibility of choosing either day or evening schedules which are offered in the fall, spring and summer semesters. They select courses from a curriculum that is carefully designed to meet various academic levels. The curriculum consists of the following five components: (1) Professional Development which includes life skills training (2) Career Exploration which includes resume writing and job search skills (3) Introductory Courses (4) Development Skills and (5) Marketable Skills which include computer training in keyboarding, word processing and business communications.

Women in Transition Program

Cape Cod Community College (Continued)

New components of the 1992-1993 Women in Transition program are a Tutoring Program, and Internship and Job Placement Program, a support group conducted by professional therapists and an Individualized Education, Training and Employment Plan.

During their first semester, students begin the Women in Transition program with a group orientation and individual counseling. Peer support is emphasized by requiring WIT women to attend classes together and by encouraging them to form study groups. Upon completion of the WIT program, students are mainstreamed into a standard two-year college curriculum and continue their education without specialized support.

A Mentor Program assists students in transitioning from the academic world to the working world. Students are matched with appropriate role models who work in the occupations the students wish to explore. With the guidance, direction and encouragement of volunteer mentors, Women in Transition students gain exposure and perspective regarding the business environment. In addition, panel discussions about business careers, small business ownership and entrepreneurial opportunities are offered to Women in Transition students.

An Internship and Job Placement Program provides Women in Transition students with on-the-job training and pragmatic exposure to various work environments and career fields. Developed with the assistance of both local and off Cape businesses and organizations, internship and job placement are key components of the Individualized Education, Training and Employment Plan for each student. The college closely collaborates with business and industry through the Advisory Boards of the following divisions of the Business Technologies Department: Management, Hotel Restaurant Management, Computer Technology, Administrative Assistant, Retail and Accounting.

Equity Awareness II

Cape Cod Regional Vocational-Technical High School

The purpose of the Equity Awareness II Program was to recruit students into vocational education and to support those who chose a nontraditional career path. During Fiscal Year 1992 the Southeastern Regional Assessment Center located at Cape Cod Tech assessed 135 eighth grade applications during their shadowing experience. The equity counselor met with all 135 students to assist in interpreting the results and provide information on nontraditional careers. The 30 students who showed the most interest in nontraditional careers were invited to participate in a week long shadowing experience. A total of 20 students chose to participate in an additional week that included extra shop instruction, field trips and special activities.

The Equity Awareness Program placed nontraditional shop aides in Carpentry, Horticulture and the culinary Program. These aides worked exclusively with special populations and provided students with effective role models.

Ninety-eight ninth grade students and twelve school staff members attended sexual harassment workshops organized by the equity counselor. Monthly support group meetings were held for nontraditional students. Topics covered included sexual harassment, sex role stereotyping and career choices. A list of speakers and mentors developed out of the support group.

Field trips were a large part of the Equity Awareness II and included visits to: Women in Technology Conference at Wentworth Institute of Technology, All Cape College Day, Hesser College, New England Tech, Otis Air Base, Cape Cod Youth Council Conference and Minority Recognition Day.

For next year, a summer exploratory program has been planned for fifth, sixth, seventh and eighth grade students attending schools in the Cape Cod Regional service area.

Licensed Manicurist Program

Massachusetts Correctional Institution

This project developed a unique tri-party cooperative partnership between the Massachusetts Correctional Institution (M.C.I.) Framingham, the Joseph P. Keefe Vocational-Technical School and the Massachusetts Board of Registration of Cosmetologists. The project services were divided into two 100 hour sections and served a total of 28 inmates. The project was designed to meet the license examination prerequisite for manicurists in the Commonwealth of Massachusetts. Keefe Tech provided the instructors and curriculum for the program, and staff from M.C.I. Framingham provided personal counseling and pre-employment assistance.

Fourteen students were enrolled in the first 100 hour course of study. Upon completion, six students took the hands-on and written examination. Five of the six students passed the exam and the one student who failed the written portion of the exam due to a translation problem, later was re-tested and passed. In the second, twelve students completed the program and eleven successfully passed the manicurist examination.

All students who received training in the program are still incarcerated at M.C.I. Framingham and are not yet eligible for employment. The Board of Registration of Cosmetologists and Regional Employment Boards will cooperatively assist to place participants upon release from the correctional facility in Framingham.

Guidance for Students with Disabilities Northern Essex Community College

The main purpose of "Guidance for Students with Disabilities" was to provide counseling, guidance and supportive services to students with severe disabilities in an effort to increase their retention within a college vocational-technical education program.

Supportive Services provided through this grant included: personal adjustment counseling, guidance, notetaking, transcribing, reading, testing accommodations, specialized training for students on coping, interpersonal and survival skills, stress management and using services, training of notetakers, specialized training and consultation provided to faculty and professional staff, focused development of individualized college training plans, educational planning, career development and case management.

Students with severe disabilities are a specialized population who are often underserved due to the nature of their needs. In general they often face more obstacles in life, and in obtaining an education available to students who not have a disability. Guidance services were provided to severely disabled students which provided equal access and the opportunity for them to stay in school and succeed in vocational-technical education programs at Northern Essex Community College. Without these supportive services provided through this grant, many of these students would have dropped out of school.

In addition to the above support services, Guidance for Students with Disabilities provided computer access through the purchase of software and other specialized supplies. Through these supplies, computers were adapted to provide large print and speech output for low vision, blind and learning disabled students. Training was provided for these adaptations through the Adaptive Equipment Specialist.

Some outstanding activities which took place include: Social Club, Office of Students with Disabilities Seminar Series, Americans with Disabilities Act (ADA) Workshop and an Assistance Technology Expo. Some of these activities were done in conjunction with other organizations within the college and the community. The Social Club was one of the most successful student recognized groups on campus. It is open to all students. It serves as an opportunity for students to expand on their current social skills, learn leadership skills, do good deeds for those less fortunate, and attend a variety of social and cultural events which they may not otherwise have the opportunity to attend. Workshops were often presented to students with disabilities through the Social Club. At the Americans with Disabilities Act workshop, private employers were encouraged to provide a cooperative education opportunity to hire Northern Essex Community College students/graduates with disabilities.

Guidance for Students with Disabilities**Northern Essex Community College (Continued)**

This was in addition to the general information about the Americans with Disabilities Act which was provided at this workshop. Approximately 100 people attended and participated. The Assistance Technology Expo provided a recruiting opportunity, exposure to different services and exposure to a number of current assistance technology opportunities. The adaptive supplies which were purchased through the grant were demonstrated by vendors at the Expo. Also, sports and recreation opportunities were demonstrated. The Expo was a huge success with over 250 people attending.

One of the most significant accomplishments of the grant was the graduation of students (31%) from Northern Essex Community College. These are students, who through the support of Guidance for Students with Disabilities, were able to stay in school and succeed. For many students with severe disabilities, the road through education is long and challenging. Many students take 3-8 years to complete a two-year associates program. Many start with remedial courses and progress through their education on a part-time basis. Their physical needs warrant this type of scheduling. The drop-out rate this year is low. Only two out of 32, (6%) dropped out. One left due to a death in the family and the other left because she needed to relocate for personal safety. The fact that 31% of the students served by the grant graduated, combined with the low drop-out rate is unto itself an outstanding accomplishment.

Learning Assistance Programs
Greenfield Community College

The Learning Assistance Programs at Greenfield Community College are an integrated set of tutoring, counseling, assessment, instructional and evaluation research efforts. They are designed to provide students with the personal, vocational and academic skills needed in order to be effective learners. The formal and informal relationships among counseling, tutoring, instruction and testing staff allow for a team approach to meeting students' learning needs. Collaboration and integration characterize the functioning of the Learning Assistance Programs.

Of the many outstanding services provided through the Learning Assistance Programs, the college has enjoyed particularly notable achievements in the areas of faculty development, peer tutoring, and networking between the college and area agencies on behalf of special needs students. Some highlights from each of these areas are as follows:

Faculty Development The coordinator of the Learning Assistance Program has developed and offered workshops on assisting disabled and handicapped students in the classroom. These workshops served to provide faculty with tools and techniques for integrating and maintaining students within a traditional setting, thereby minimizing segregation and stigmatization. An additional focus of faculty development has been the recruitment of women into nontraditional majors. The college is now seeking funding for a Women in Technology program.

Peer Tutoring Recognizing that many students are reluctant to seek counseling and learning assistance, the peer tutoring program provides an easy and non-threatening approach to both outreach and provision of services. One outstanding outcome of this program is the number of former clients who return to become tutors themselves. The role modeling provided by peer tutors results in the empowerment of students to seek solutions using their own resources.

Networking with Community Agencies and Local Business and Industry A distinguishing characteristic of the college's student population is the significant number of students who are consumers of social services in our surrounding communities. Through a systems approach that links service providers from within and outside the college, they are able to offer a coordinated approach to meeting individual students' academic, vocational and emotional needs and support.

In addition, the Learning Assistance Programs have developed a linkage with the college's Cooperative Education program to provide career exploration opportunities as an adjunct to counseling. Five hundred of the 1,300 students enrolled at Greenfield Community College participate in the Learning Assistance Programs. The drop-out rate for those who participate in the programs are 25% which contrasts with the 50% college drop-out rate for those who do not participate. On average, 50% of the college's students are retained from one year to the next, while 75% of the Learning Center participants return for their second year.

ESL/Electronics Technology Program
Bunker Hill Community College

The ESL/Electronics Program has placed over 80 graduates in the electronics industry since the program was developed. Forty-five different high tech companies have hired graduates. The job histories of these students demonstrate that the program places students on the first rung of a job ladder that quickly moves them from semi-skilled technical positions.

Approximately one-half of the graduates of the program have continued their studies in electronics technology or engineering. Many have done so on a part-time basis with the financial assistance of their employers. During Fiscal Year 1992, twenty students were served with a 95% completion rate. Of that total, nine found training related placement and five students continued their education at the college level.

The target population for the program is low income students with limited English proficiency. There are many adults in the Boston area of limited skills or English ability and no/or inappropriate job skills. The program is designed to meet the two greatest needs of this population by combining English as a second language instruction and vocational skills training. Eligible female clients have been actively recruited for training in this traditionally male field. Twenty-five percent of the graduates of this program have been female.

The ESL/Electronics Program uses a fully integrated approach to vocational/language training. This approach is based on the belief that language training is most effective when embedded in the context of the skills training. The ESL course is designed so that the material for the reading, writing, and oral lessons is drawn from topics being covered concurrently in the skills training. This method of integrating the study of English and electronics technology has proven very successful in giving students both the language and technical competencies necessary for entry-level technical positions in the electronics industry. This is a 575 hour, 36 week course. Formal classes meet four days a week for four hours each day. Three hours are devoted to math and electronics. One hour each day is for ESL instruction. There is an additional one hour daily tutorial session for students who need extra help. With the help of the instructional staff and because the same students are together in all their classes, a learning community is fostered in which students help and support each other in mastering the material. This learning community later becomes a job search community in which students and staff support each other in the job search effort. Classes meet for a full 36 weeks beginning in September and ending in May.

Job search skills instruction--including the videotaping of mock job interviews--takes place as part of a custom-designed 'ESL for the Work Place' course required of all students.

ESL/Electronics Technology Program
Bunker Hill Community College (Continued)

The goal of this program is to provide students with the basic academic, language, and technical competencies necessary for entry-level positions in the electronics industry as technicians. In terms of language training, the goal is for students to achieve a proficiency equivalent to the MELT Level VII. This level of proficiency includes the ability to handle work situations involving straight forward written and oral communications in familiar and some unfamiliar situations.

Students achieve the following technical competencies: the ability to use Algebra and basic Trigonometry to analyze circuits, the ability to read and interpret schematics and build circuits, the measurements, the ability to use VOM's, multimeters, and oscilloscopes to make electrical measurements, the ability to identify and inspect electronic components, the ability to boot-up a computer and to run test program applications.

The United States Department of Education has awarded the ESL/Electronics Program its highly prized Secretary of Education's Award as the Outstanding Vocational Education Program in the Northeast. The National Center for Research in Vocational Education has also cited the program as a model for the integration of academic and vocational-technical education.

YouthBuild

YouthBuild Boston

YouthBuild is a program that has been designed to train unemployed out-of-school youth in renovating abandoned buildings in the community into affordable housing. The YouthBuild construction site is used as a classroom in which students learn through hands-on experience every phase of carpentry from demolition to finish carpentry. YouthBuild instructors are union journeymen carpenters who supervise the work of renovating the building. In addition, subcontractors such as electricians and plumbers teach students additional skills based upon the renovation project.

Students alternate weeks between the site and the classroom. The academic and vocational aspects of the program are integrated. The YouthBuild math curriculum is designed so that math problems apply directly to work at the construction site. Classroom work is supplemented by hands-on math application projects at the building site. A portion of the English curriculum requires students to develop reading comprehension, writing and vocabulary skills through construction-related material.

The YouthBuild program exposes students to all aspects of the construction industry. The curriculum includes introductory classes in electricity and plumbing at the Humphrey Occupational Resource Center as well as at the construction site. Students also visit construction companies where they learn about careers in the business side of construction and about the building project development and approval process.

Students receive extensive counseling, both one-on-one and through peer support groups. Special supports are built-in for women interested in this field. YouthBuild runs a women's support group, registers women for Women in the Building Trades, and provides female role models including a female carpenter on staff.

The construction industry strongly supports YouthBuild Boston. The Carpenter's District Council is an original sponsor of YouthBuild and has been instrumental in providing instructors and assisting YouthBuild graduates in entering the union. The Association of General Contractors is also a sponsor. Five of the city's largest general contractors actively work to introduce their subcontractors to YouthBuild and use them to hire graduates to fill construction employment vacancies.

YouthBuild has retained 75% of its students and has an overall program attendance of 90%. While the program will not graduate students until the fall of 1992, YouthBuild has been successful in the past at creating access to a wide range of jobs in the construction industry. Graduates of the program are now working as utility inspectors, computer draftpersons, document control specialists, union carpenters, asbestos abatement workers, electricians, engineering assistants, energy conservation installers with starting wages averaging \$9-10 per hour.

Tech-Prep Program

Berkshire Community College

The Berkshire Tech-Prep Program is a three-year project designed to benefit occupational and vocational-technical education students in Berkshire County secondary schools as well as career students enrolled at Berkshire Community College (BCC). This project has three major thrusts: the development of integrated, applied curriculum; professional development activities for college and high school faculties; and a strong guidance component.

The objective of the curriculum project is for each school in the Partnership to produce one unit (30 contact hours) of model curriculum, organized on a physical science theme, and integrating the appropriate math and communications topics. The model curriculum was field tested during the winter of 1992-1993 by each of the six schools in the partnership. The emphasis is on learning through real-life application. At the end of the third year of the project, each school will have 18 units of curriculum in exchange for three.

A number of marketing materials have been produced, including a flyer designed for parents which answers common questions about Tech-Prep. A logo has been developed, and appears on all correspondence as well as having been made into buttons and stickers. A flow chart depicting various career paths is being updated to account for all schools in the country.

Articulation agreements are currently in place in Electronics, Culinary Arts, and Office Administration. Approximately 30 students are enrolled this year. This number is expected to double next year. A strong guidance effort assures continuous support for these students. High school electronics students are visited on a regular basis by members of the college engineering faculty to discuss course selections and program expectations. Culinary arts students come on campus to take their courses. They meet regularly with a counselor who keeps in close contact with both students and high school and college instructors.

Student assessment testing was completed this past spring at all high schools in the Partnership. Those students who are currently enrolled in Tech-Prep as well as those who have been identified as potential Tech-Prep students for next year have been tested. This activity will give a baseline against which to measure growth, as well as to avoid having to spend a semester or more in college remedial classes.

Tech-Prep Program

Berkshire Community College (Continued)

Incentives for students to do well in math, science and communications are being built into the program. The first, the formation of a Chapter of the National Vocational-Technical Honor Society is in place. Twenty-five Berkshire Community College students were inducted during the awards ceremony this spring.

Two professional development activities were provided for the combined faculties of the six partnership schools and Berkshire Community College. The first, presented by the Massachusetts Curriculum Resource Center, dealt with the concept of curriculum integration. The second, based on the film by the New England Association of Schools and Colleges, dealt with the concept of school and college partnerships.

Exemplary Programs for Pregnant and Parenting Teens **Malden Public Schools**

This program provided outreach, counseling, career planning, family life and child development skills for 27 pregnant and parenting teens. In addition, project staff identified services that were available to participants which provided support in the community.

Major activities in the program included:

- **instruction in pre/post-natal care, HIV and AIDS prevention, substance abuse and prevention, and the effects of drugs on the fetus**
- **individual and group counseling for students in the program focusing on information, support, crisis intervention and management as well as linkages to community services**
- **outreach to pregnant and parenting teens who (1) are in the program but were not attending school; (2) would like to return to school; (3) discover their pregnancy while attending school (4) are no longer in school, but are in need of services**
- **collaboration with the Teen Parenting Task Force, Malden Redevelopment Association, Mayor's office, Malden Hospital, Department of Social Services and other social service agencies to provide services for pregnant and parenting teens**
- **development of the Malden Mentoring Collaborative composed of the Malden Public Schools, YMCA, and local churches to recruit and train volunteer mentors from the community to guide pregnant and parenting teens**
- **collaboration with the Challenge Schools and Malden Vocational-Technical School to service pregnant and parenting students**
- **collaboration with the Drop-Out Coordinator to provide legal services to students**
- **development of a proposal to provide child care for students not eligible for state assistance**

The project was especially successful in retraining students in the program with only one drop-out. Of the five graduates, four have been accepted to a local college and eleven students will receive services through the next school year.

Exemplary Program for Parenting Teens Somerville Public Schools

This project was developed in order to help pregnant and parenting male and female teens; including refugees, handicapped, disadvantaged, bilingual, regular education and minority students to develop their consumer/homemaker and wage earner skills. As a result of the project, students were helped to identify career paths in vocational-technical or regular education.

Major activities of the project include:

- the publication of a flyer which was distributed to social service agencies and school staff,
- the development of an assessment tool to identify areas where program participants were most lacking in their consumer/homemaking skills,
- the development of individualized remediation plans to improve students' academic knowledge and competence,
- monthly meetings for parenting teens including the fathers of the newborn children,
- vocational assessments to identify career interest and aptitudes, and
- the development of a booklet entitled "Getting your Program off the Ground" which was distributed statewide.

The program enrolled 29 participants, 30% above the projected enrollment goal. Of the seven seniors in the program, all graduated with five continuing their education in college. The remaining two students entered the work force. Four students left school prior to graduation, one enrolled in a GED program and one student applied for an Alternative High School Diploma (ADP). The remaining two students moved to another school district.

APPENDIX B

STATE STANDARDS AND MEASURES

FISCAL YEAR 1992

STATEWIDE SYSTEM OF PERFORMANCE MEASURES AND STANDARDS
FOR INSTITUTIONS THAT RECEIVE
FEDERAL VOC-TECH EDUCATION FUNDS

A. Secondary School Occupationally Specific
Programs*

MEASURE I: Completion Rates

Purpose: To measure the effectiveness of the institution's assessment practices, support services, and other guidance and counselling functions.

Standards:

a. Annual Completion Rate for all programs.

At least 90% of the individuals enrolled in Perkins eligible programs for at least six months during the school year must complete their annual program of studies and be eligible to advance to the next level of education or to the workplace.

b. Annual graduation rate for high school students enrolled in Perkins eligible programs.

At least 90% of the senior year students who have enrolled in Perkins eligible programs for at least two years will be graduated with both a high school diploma and a certificate of mastery for an occupation that signifies that the recipient is qualified for employment and for further learning experiences.

MEASURE II: Placement Rates

Purpose:

To measure the effectiveness of the service providers education program and the school-to-work transition services.

* Chapter 74 programs and non-Chapter 74 programs eligible for Perkins funds other than Technology Education.

Standards

- a. At least 70% of program graduates will be placed within four months of graduation in a job related to the occupation of study, in the military, or in a postsecondary education program.
- b. At least 90% of the program graduates will be placed within four months of graduation in a job, in the military, or in a postsecondary education program.
- c. Service providers must achieve at least a 65% response rate for the placement report.

MEASURE III: Follow-up Rates

Purpose: To measure the effectiveness of the service provider's education programs, including academic, occupational and responsibility skills certification.

Standards:

- a. Based upon a survey of graduates about 10 months following graduation, at least 60% of the respondents must be in a job related to the occupation of study, in the military, or in full time study at a postsecondary institution.
- b. At least 90% of survey respondents must be employed, including military employment, or must be in a full time study at a postsecondary institution.
- c. Service providers must achieve at least a 65% response rate of return for the follow-up report.

A. Secondary School Programs

MEASURE I: Completion Rates

This is a new measure for all programs although the Department has recently focussed considerable attention on dropout rates. The standards selected for this measure represent an estimate and takes into account a combination of dropout rates and voluntary transfers between programs. This standard will be reviewed for adjustment following the first year of implementation.

MEASURE II: Placement Rates

This measure has been used to evaluate Chapter 74 vocational-technical education programs. The standard of 70% related placement has been in place for Chapter 74 programs for several years. The standard of 90% for total placement is based upon a review of the past three years of Chapter 74 data. The standard of 65% response rate is based upon the statewide data on the follow-up of Chapter 74 completers over the past three years. These three standards and the placement measure will be new for non-Chapter 74 programs. The issue of related placement will be studied on a sampling basis during the 1992-1993 academic year.

MEASURE III: Follow-up Rates

This measure has been in effect for Chapter 74 programs. In addition, special statewide follow-up studies were conducted in 1982 and 1987. The standards were each set based upon a review of the data from the past three years' follow-up results.

B. Postsecondary Occupationally Specific Programs*

MEASURE I: Completion Rates

Purpose: To measure the effectiveness of the institution's assessment practices, support services, and other guidance and counselling functions.

Standards:

- a. Annual Certificate/degree completion rate.

At least 50% of the individuals enrolled in Perkins eligible programs on a full time basis beyond developmental courses (i.e. twelve credits or more per semester) for two consecutive years will complete a one year certificate in two years or less and/or will complete a two year certificate or degree in four years or less.

MEASURE II: Placement Rates

Purpose:

To measure the effectiveness of the service providers education program and the school-to-work transition services.

Standards

- a. At least 90% of program graduates will be placed within four months of graduation in a job related to the occupation of study, in the military, or in a postsecondary education program.
- b. Service providers must achieve at least a 65% response rate for the placement report.

* Chapter 74 postsecondary programs and career programs at community colleges eligible for Perkins funding.

MEASURE III: Follow-up Rates

Purpose: To measure the effectiveness of the service provider's education programs, including academic, occupational and responsibility skills certification.

Standards:

- a. Based upon a survey of graduates about 10 months following graduation, at least 85% of the respondents must be in a job related to the occupation of study, in the military, or in full time study at a postsecondary institution.
- b. Service providers must achieve at least a 65% response rate of return for the follow-up report.

IMPORTANT NOTE:

Legislation has been recently signed by the Governor to modify Section 12, Chapter 62E of the General Laws to create a system for placement and follow-up of completers of workforce development programs, including vocational-technical education as part of the wage reporting system. This computerized system will match social security numbers of program completers to employment data files presently maintained by the Massachusetts Department of Revenue.

B. Postsecondary Programs

MEASURE I:

Completion Rates

There is very little research available to establish standards for this measure, especially for community colleges. As the standard indicates, we only count program enrollees who have completed forty-eight credits toward a certificate or degree. This standard will be reviewed for adjustment following the first year of implementation. We will also be working with the staff of the Higher Education Coordinating Council to avoid duplication of information requests; the federal 'Right to Know' law may require similar data.

MEASURE II:

Placement Rates

Although community colleges have placement offices, these institutions do not compile data on placement, with minor exceptions. We do have data on the one year follow-up and this standard is a statement of expectation that graduates of community college career programs will achieve similar placement results.

MEASURE III:

Follow-up Rates

A few community colleges have completed special follow-up studies on career programs. The Chapter 74 postsecondary programs compile follow-up results on completers one year after graduation. This standard was set after a review of available data and will be subject to change after the first year's findings are reviewed.

APPENDIX C

**SECONDARY AND POSTSECONDARY
ENROLLMENT TABLES**

FISCAL YEAR 1992

DIVISION OF OCCUPATIONAL EDUCATION
ENROLLMENT AND COMPLETERS
SCHOOL YEAR 1991-92

CIP CODE =====	CIP TITLE =====	TOTAL =====	MALE =====	FEM. =====	ECONOM. DISADV. =====	EDUCAT. DISADV. =====	LIMITED ENGLISH =====	DIS- ABLED =====	CORREC- TIONS =====	SP/DH /SPW =====	ELIM OF SEX BIAS =====	ADULT =====	JUNE 1991 COMPLETERS =====
0100	AGRICULTURE	108	75	33	16	69	7	39	0	0	0	0	0
010201	AGRIC MECHANIZATION, GENER	38	27	11	3	24	1	5	0	0	11	0	10
010301	AGRIC PROD WORKERS/MGRS	48	40	8	1	14	0	16	0	0	8	3	20
010302	ANIMAL PRODUCTION	166	48	118	24	50	3	30	0	0	0	0	40
010398	SMALL ANIMAL PROD MGMT	115	21	94	19	7	0	17	0	0	18	42	29
010401	AGRIC & FOOD PRODUCTS	63	18	45	1	3	1	2	0	0	0	63	8
010599	AGRIC SUPPLIES & REL, OTHR	16	4	12	1	1	0	0	0	0	4	16	10
010601	HORTIC SERVICES OPER/MGMT	376	260	116	28	67	6	105	0	0	0	116	57
010603	ORNAMENTAL HORTICULTURE	96	23	73	26	31	0	27	0	0	23	40	26
010605	LANDSCAPING OPER & MGMT	54	44	10	5	29	0	20	0	0	10	0	15
010699	HORTIC SERV OPER/MGMT, OTH	47	29	18	4	19	1	12	0	0	18	0	14
019999	AGRIC BUS & PROD, OTHER	68	35	33	29	41	15	13	0	0	0	0	18
030101	NATURAL RESOURCES CONSERV	68	47	21	3	25	9	1	0	0	0	27	10
030401	FORESTRY HARVEST/PRODUCTN	20	15	5	2	6	0	10	0	0	5	0	9
0800	MARKETING	303	159	144	87	113	14	48	0	0	0	0	0
080101	APPAREL & ACCESSORY MKTG	31	0	31	3	0	1	0	0	0	0	31	9
080401	FINANCIAL SERVICES MKTG	174	39	135	52	30	15	11	0	40	0	96	39
080708	GENERAL MARKETING	1458	459	999	310	324	21	203	0	9	1	18	855
089999	MKTG & DISTRIBUTION, OTHER	21	8	13	13	10	11	3	0	0	1	1	9
1000	COMMUNICATIONS TECHNOLOGY	281	188	93	49	95	42	42	0	0	0	0	0
100104	RADIO&TV BROADCAST TECH	28	16	12	3	9	7	9	0	0	0	0	8
1100	COMPUTER TECHNOLOGY	476	273	203	68	69	43	29	0	0	0	0	0
110201	COMPUTER PROGRAMMING	882	286	596	221	167	54	96	0	4	0	85	266
110301	DATA PROCESSING TECH	615	169	446	208	160	36	49	30	4	0	93	140
110401	INFO SCIENCES/SYSTEMS	185	17	168	77	56	7	25	0	2	16	44	36
120403	COSMETOLOGY	1580	45	1535	367	323	103	249	34	0	45	266	533
120499	COSMETIC SERVICES, OTHER	10	0	10	0	0	0	0	0	0	0	10	0
120501	BAKER/PASTRY CHEF	17	9	8	4	2	1	1	0	0	0	17	1
120503	CULINARY ARTS/CHEF TRNING	184	84	100	14	21	5	54	0	0	29	49	72
1500	TECHNOLOGY EDUCATION	2415	1916	499	427	605	162	213	0	0	499	0	0
150101	ARCHITECTURAL ENGIN TECH	39	34	5	15	0	0	1	0	0	5	39	13
150303	ELECTRIC/ONIC & COMM TECH	1454	1300	154	343	196	74	189	0	22	137	172	346
150402	COMPUTER MAINTENANCE TECH	33	29	4	33	0	0	0	0	0	0	33	0

SECONDARY

Page No. 2

04/05/93

DIVISION OF OCCUPATIONAL EDUCATION
ENROLLMENT AND COMPLETERS
SCHOOL YEAR 1991-92

CIP CODE	CIP TITLE	TOTAL	MALE	FEM.	ECONOM. DISADV.	EDUCAT. DISADV.	LIMITED ENGLISH	DIS- ABLED	CORREC- TIONS	SP/DH /SPW	ELIM OF SEX BIAS	ADULT	JUNE 1991 COMPLETRS
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
150403	ELECTROMECHANICAL TECH	40	35	5	8	2	0	12	0	0	5	11	5
150607	PLASTICS TECHNOLOGY	15	15	0	15	0	0	0	0	0	0	15	0
159999	ENGINEERING & REL, OTHER	55	33	22	16	0	0	0	0	34	0	55	31
200102	CHILD DEVEL/CARE/GUIDANCE	116	12	104	64	69	13	14	0	0	0	0	0
200104	CONSUMER EDUCATION	193	54	139	170	156	72	6	0	0	0	0	0
200106	FAMILY/INDIVIDUAL HEALTH	106	77	29	106	97	106	9	0	0	0	0	0
200107	FAMILY LIVING& PARENTHOOD	1013	125	888	708	484	268	149	0	0	0	0	0
2002	VOCATIONAL HOME ECONOMICS	1588	455	1133	484	457	151	427	0	0	0	0	0
200201	CHILD CARE & GUID WRK/MGR	485	55	430	104	106	15	160	0	0	55	3	134
200301	CLOTHING/APPAREL/TEXTILE	254	3	251	98	83	29	42	0	0	3	4	75
200401	INSTIT FOOD WORKERS/ADMIN	2299	1164	1135	539	612	68	819	8	8	0	94	486
200501	HOME FURNISHINGS & EQUIP	4	0	4	0	0	0	0	0	0	0	0	6
200601	CUSTODIAL/HSKPG/HOME SERV	367	4	363	186	182	28	61	0	0	4	0	27
430104	CRIMINAL JUSTICE STUDIES	1	0	1	0	0	0	0	0	1	0	1	1
4600	CONSTRUCTION OCCUPATIONS	584	501	83	150	260	73	210	0	0	83	0	0
460101	MASON & TILE SETTER	217	213	4	46	51	1	94	0	0	4	1	68
460201	CARPENTER	2508	2389	119	428	584	57	637	10	1	119	39	706
460302	ELECTRICIAN	2477	2402	75	298	361	44	356	0	2	75	453	578
460401	BUILDING & PROPERTY MAINT	517	453	64	149	189	27	234	0	0	64	3	98
460408	PAINTER & WALL COVERER	407	173	234	93	134	4	131	0	0	0	2	101
460501	PLUMBER & PIPEFITTER	1224	1199	25	182	180	18	202	0	2	25	362	237
4700	MECHANICS & REPAIRERS	420	378	42	94	128	64	119	0	0	42	0	0
470101	ELECTRIC/ELECTRON EQ INST	33	31	2	5	2	0	13	0	0	2	1	6
470106	MAJ APPLIANCE INST/REPAIR	122	115	7	46	57	5	23	0	0	7	3	26
470199	ELECTRIC/ONIC EQUIP,OTHER	106	78	28	59	25	9	11	0	0	2	0	21
470201	HEATING, A/C, REFRIG MECH	701	691	10	170	152	16	145	0	1	9	130	129
470302	HEAVY EQUIP MAINT& REPAIR	23	23	0	9	15	1	8	0	1	0	1	6
470303	INDUST MACH MAINT/REPAIR	9	8	1	0	6	0	6	0	0	1	0	3
470501	STATIONARY ENERGY SOURCES	56	53	3	22	17	1	5	0	0	3	0	5
470603	AUTOMOTIVE BODY REPAIRER	1353	1286	67	338	410	99	439	0	0	67	21	288
470604	AUTOMOTIVE MECHANIC/TECH	2356	2239	117	513	612	145	732	0	7	115	112	520
470605	DIESEL ENGINE MECHANIC	94	94	0	9	32	0	40	0	0	0	18	19
470606	SMALL ENGINE MECH/REPAIR	223	218	5	110	91	11	69	64	0	5	1	19
4800	PRECISION PRODUCTION	586	460	126	74	157	62	60	0	0	126	0	0

DIVISION OF OCCUPATIONAL EDUCATION
ENROLLMENT AND COMPLETERS
SCHOOL YEAR 1991-92

CIP CODE	CIP TITLE	TOTAL =====	MALE =====	FEM. =====	ECONOM. DISADV. =====	EDUCAT. DISADV. =====	LIMITED ENGLISH =====	DIS- ABLED =====	CORREC- TIONS =====	SP/DH /SPW =====	ELIM OF SEX BIAS =====	ADULT COMPLETRS =====	JUNE 1991 COMPLETERS =====
480101	DRAFTING, GENERAL	1258	969	289	289	198	43	158	30	20	265	172	285
480102	ARCHITECTURAL DRAFTING	36	26	10	9	8	1	2	0	0	10	0	9
480105	MECHANICAL DRAFTING	32	28	4	8	6	0	0	0	0	4	0	5
480201	GRAPHIC & PRINTING EQ OPR	1342	750	592	285	336	60	306	38	2	0	31	349
480208	PRINTING PRESS OPERATOR	176	86	90	40	29	1	37	0	0	0	0	35
480501	MACHINIST/MACHINE TECH	742	705	37	173	239	35	251	0	0	37	8	206
480503	MACHINE SHOP ASSISTANT	1306	1233	73	311	350	91	310	0	0	73	88	312
480506	SHEET METAL WORKER	298	281	17	42	82	10	100	0	0	17	13	80
480508	WELDER/WELDING TECH	291	276	15	75	66	9	66	18	0	15	71	63
480703	CABINETMAKER & MILLWORKER	292	270	22	50	55	3	89	0	0	22	12	94
490306	MARINE MAINT/SHIP REPAIR	89	87	2	17	27	2	32	0	0	2	3	21
500402	GRAPH DESN, COMMERCIAL ART	550	356	194	87	85	17	111	0	0	0	47	151
5100	HEALTH OCCUPATIONS	150	36	114	39	34	13	58	0	0	0	0	0
510301	COMMUNITY HEALTH LIAISON	993	47	946	236	158	18	159	0	48	43	149	261
510601	DENTAL ASSISTANT	117	15	102	32	9	6	4	0	3	15	80	67
510707	MEDICAL RECORDS TECH	20	2	18	4	0	0	0	0	0	2	20	0
510801	MEDICAL ASSISTANT	31	0	31	8	4	3	1	0	0	0	0	19
510807	PHYSICIAN ASSISTANT	141	14	127	42	17	14	15	0	1	14	63	76
510909	SURGICAL/OPERATING TECH	41	12	29	11	2	0	1	0	0	12	41	30
511004	MEDICAL LAB TECH	18	3	15	7	0	1	0	0	5	0	18	13
511502	PSYCH/MENTAL HEALTH TECH	42	7	35	0	0	0	0	0	42	0	42	36
511613	PRACTICAL NURSE (LPN)	454	62	392	111	17	0	3	0	0	62	454	314
511614	NURSING ASST/AIDE	817	37	780	197	151	37	76	0	74	30	282	164
511801	OPTICIANRY/DISP OPTICIAN	27	16	11	9	0	0	1	0	0	0	27	14
519999	HEALTH PROF & REL, OTHER	75	1	74	0	0	0	0	0	75	0	75	68
5200	OFFICE OCCUPATIONS	14509	4935	9574	2408	2684	1439	988	0	0	0	0	0
520204	OFFICE SUPERVISION & MGMT	5	0	5	0	0	0	0	0	5	0	5	2
520302	ACCOUNTING TECHNICIAN	26	5	21	0	0	0	0	0	26	0	26	20
520401	ADMIN ASST/SECRETARY, GEN	92	10	82	43	0	0	0	0	49	10	92	46
520404	MEDICAL ADM ASST/SECRETRY	99	12	87	72	11	13	5	0	0	12	69	5
520408	GEN OFF/CLERICAL & TYPING	131	12	119	84	0	0	0	0	47	12	131	33
520902	HOTEL/MOTEL& RESTRNT MGMT	93	30	63	35	53	16	20	0	0	0	0	16
521205	BUS COMPUTER FACIL OPERAT	359	105	254	218	52	21	0	0	141	0	141	133
521299	BUS INFO & DATA PROC,OTHR	174	1	173	0	0	0	0	0	174	0	174	161

SECONDARY

4

Page No.
04/05/93DIVISION OF OCCUPATIONAL EDUCATION
ENROLLMENT AND COMPLETERS
SCHOOL YEAR 1991-92

CIP CODE	CIP TITLE	TOTAL	MALE	FEM.	ECONOM. DISADV.	EDUCAT. DISADV.	LIMITED ENGLISH	DIS- ABLED	CORREC- TIONS	SP/DH /SPW	ELIM OF SEX BIAS	ADULT COMPLETRS	JUNE 1991
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
529999	BUS MGMT & ADMIN SERV, OTH	30	4	26	30	0	0	0	0	0	0	30	0
9900	OTHER NOT ELSEWHERE CLASS	70	20	50	70	0	0	0	0	0	0	70	0
990100	CHAPTER 74 EXPLORATORY	7422	4572	2850	1650	1744	439	1949	0	76	0	76	60
9902	NON-CHAP 74 EXPLORATORY	600	425	175	0	0	0	0	0	0	0	0	0
***	Total ***	64969	36203	28766	14441	14694	4318	11494	232	926	2303	5101	9336

SECONDARY

Page No. 1
04/06/93

DIVISION OF OCCUPATIONAL EDUCATION
ONE-YEAR FOLLOW-UP STUDY OF
SCHOOL YEAR 1989-90 GRADUATES

CIP CODE	CIP TITLE	CONTINUE EDUCATION	EMPLOYED RELATED	EMPLOYED NON-REL.	MILITARY	OTHER
=====	=====	=====	=====	=====	=====	=====
010201	AGRIC MECHANIZATION, GENER	1	0	3	0	0
010301	AGRIC PROD WORKERS/MGRS	0	4	1	0	0
010302	ANIMAL PRODUCTION	12	18	6	2	5
010398	SMALL ANIMAL PROD MGMT	3	7	2	0	2
010399	AGRIC PROD WRKRS/MGRS, OTH	0	0	1	0	0
010401	AGRIC & FOOD PRODUCTS	2	4	0	0	1
010599	AGRIC SUPPLIES & REL, OTHR	0	7	1	0	3
010601	HORTIC SERVICES OPER/MGMT	18	25	13	0	6
010603	ORNAMENTAL HORTICULTURE	3	6	2	0	1
010605	LANDSCAPING OPER & MGMT	4	7	2	2	3
010606	NURSERY OPERATION & MGMT	1	11	3	0	4
010699	HORTIC SERV OPER/MGMT, OTH	2	0	5	1	0
019999	AGRIC BUS & PROD, OTHER	2	4	1	1	5
030101	NATURAL RESOURCES CONSERV	1	2	4	1	0
030401	FORESTRY HARVEST/PRODUCTN	0	6	1	0	1
039999	RENEWABLE NATUR RES, OTHER	1	5	1	0	1
080101	APPAREL & ACCESSORY MKTG	1	3	2	0	3
080401	FINANCIAL SERVICES MKTG	7	2	1	0	1
080708	GENERAL MARKETING	282	261	92	40	67
089999	MKTG & DISTRIBUTION, OTHER	0	0	0	0	1
100104	RADIO&TV BROADCAST TECH	0	1	1	0	0
110201	COMPUTER PROGRAMMING	74	54	46	4	17
110301	DATA PROCESSING TECH	28	32	7	5	9
110401	INFO SCIENCES/SYSTEMS	5	12	3	0	5
120403	COSMETOLOGY	44	268	67	1	44
120501	BAKER/PASTRY CHEF	0	1	0	0	0
120503	CULINARY ARTS/CHEF TRNING	13	17	13	1	5
150101	ARCHITECTURAL ENGIN TECH	3	7	0	1	3
150303	ELECTRIC/ONIC & COMM TECH	116	73	35	31	21
150403	ELECTROMECHANICAL TECH	0	0	0	1	0
150607	PLASTICS TECHNOLOGY	2	1	1	1	1
150699	INDUSTRIAL PROD TECH, OTHR	0	0	0	0	0
200201	CHILD CARE & GUID WRK/MGR	46	21	20	0	5
200301	CLOTHING/APPAREL/TEXTILE	13	12	8	0	10
200401	INSTIT FOOD WORKERS/ADMIN	93	160	59	26	31
200601	CUSTODIAL/HSKPG/HOME SERV	2	4	5	0	0
460101	MASON & TILE SETTER	4	15	13	6	1
460201	CARPENTER	77	246	163	60	49
460302	ELECTRICIAN	70	196	114	49	37
460401	BUILDING & PROPERTY MAINT	6	28	10	5	9

SECONDARY

Page No. 2
04/06/93

DIVISION OF OCCUPATIONAL EDUCATION
ONE-YEAR FOLLOW-UP STUDY OF
SCHOOL YEAR 1989-90 GRADUATES

CIP CODE =====	CIP TITLE =====	CONTINUE EDUCATION =====	EMPLOYED RELATED =====	EMPLOYED NON-REL. =====	MILITARY =====	OTHER =====
460408	PAINTER & WALL COVERER	10	18	30	2	6
460501	PLUMBER & PIPEFITTER	9	69	46	14	26
470101	ELECTRIC/ELECTRON EQ INST	2	2	0	1	2
470106	MAJ APPLIANCE INST/REPAIR	7	10	4	2	2
470199	ELECTRIC/ONIC EQUIP, OTHER	3	3	0	1	1
470201	HEATING, A/C, REFRIG MECH	12	32	14	7	8
470302	HEAVY EQUIP MAINT& REPAIR	0	1	0	2	1
470303	INDUST MACH MAINT/REPAIR	0	1	1	0	0
470501	STATIONARY ENERGY SOURCES	2	1	3	0	0
470603	AUTOMOTIVE BODY REPAIRER	20	94	51	12	26
470604	AUTOMOTIVE MECHANIC/TECH	46	211	68	37	25
470605	DIESEL ENGINE MECHANIC	0	8	0	3	0
470606	SMALL ENGINE MECH/REPAIR	2	10	5	1	3
480101	DRAFTING, GENERAL	94	56	46	17	12
480102	ARCHITECTURAL DRAFTING	1	0	3	1	0
480105	MECHANICAL DRAFTING	2	1	0	0	0
480201	GRAPHIC & PRINTING EQ OPR	59	101	62	10	29
480208	PRINTING PRESS OPERATOR	9	12	8	0	2
480303	UPHOLSTERER	0	1	5	0	1
480501	MACHINIST/MACHINE TECH	6	61	31	9	13
480503	MACHINE SHOP ASSISTANT	23	116	40	15	22
480506	SHEET METAL WORKER	8	23	11	7	5
480508	WELDER/WELDING TECH	5	26	4	5	5
480703	CABINETMAKER & MILLWORKER	9	36	32	8	8
490306	MARINE MAINT/SHIP REPAIR	1	2	4	3	1
500402	GRAPH DESN, COMMERCIAL ART	45	21	19	2	24
510301	COMMUNITY HEALTH LIAISON	35	63	22	3	12
510601	DENTAL ASSISTANT	5	36	0	0	6
510801	MEDICAL ASSISTANT	0	5	2	0	0
510807	PHYSICIAN ASSISTANT	2	41	4	0	7
510909	SURGICAL/OPERATING TECH	0	18	3	0	2
511004	MEDICAL LAB TECH	2	8	0	0	0
511613	PRACTICAL NURSE (LPN)	3	213	2	3	12
511614	NURSING ASST/AIDE	30	46	14	1	8
511801	OPTICIANRY/DISP OPTICIAN	1	9	0	0	0
520404	MEDICAL ADM ASST/SECRETRY	1	1	1	0	0
520902	HOTEL/MOTEL& RESTRNT MGMT	2	3	3	0	1
*** Total ***		1392	2879	1244	404	621

POSTSECONDARY

Page No. 1
04/08/93

DIVISION OF OCCUPATIONAL EDUCATION ENROLLMENT AND COMPLETERS SCHOOL YEAR 1991-92

CIP CODE	CIP TITLE	TOTAL	MALE	FEM.	DIS- ABLED	ECONOMIC DISADV.	EDUCAT. DISADV.	LIMITED ENGLISH	ELIM OF SEX BIAS	ADULT	JUNE 1991 COMPLETERS
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
010302	ANIMAL PRODUCTION	11	2	9	0	3	1	0	2	11	6
010601	HORTIC SERVICES OPER/MGMT	2	1	1	0	0	0	0	0	2	2
010605	LANDSCAPING OPER & MGMT	37	30	4	4	1	12	0	4	37	14
030101	NATURAL RESOURCES CONSERV	22	17	5	1	7	13	0	0	22	6
040501	INTERIOR ARCHITECTURE	3	0	3	1	1	0	1	0	3	2
080102	FASHION MERCHANDISING	37	1	36	2	7	15	0	1	37	10
080401	FINANCIAL SERVICES MKTG	10	1	8	0	0	2	1	0	10	2
080704	GENERAL BUYING OPERATIONS	3	1	1	0	0	0	0	0	3	4
080705	GEN RETAILING OPERATIONS	128	26	94	5	19	39	7	0	128	21
080708	GENERAL MARKETING	135	55	80	9	47	40	3	0	135	23
081104	TOURISM PROMOTION OPER	97	9	84	1	32	20	8	9	97	16
081105	TRAVEL SERVICES MARKETING	141	13	125	4	31	48	6	13	141	16
081199	TOURISM& TRAVEL MKTG,OTHR	41	7	31	1	7	8	1	7	41	5
090401	JOURNALISM	43	29	14	2	10	9	0	0	43	4
100101	EDUC/INSTRUC MEDIA TECH	0	0	0	0	0	0	0	0	0	0
100104	RADIO&TV BROADCAST TECH	149	96	45	25	64	56	2	0	149	16
100199	COMMUNICATIONS TECH,OTHER	117	62	52	9	29	32	7	0	117	13
110201	COMPUTER PROGRAMMING	365	183	171	8	138	124	28	0	365	54
110301	DATA PROCESSING TECH	288	38	40	13	22	16	6	0	288	21
110401	INFO SCIENCES/SYSTEMS	231	128	93	10	85	60	9	0	231	27
119999	COMPUTER &INFO SCI, OTHER	246	145	97	5	88	33	49	0	246	27
120403	COSMETOLOGY	47	2	42	4	14	19	5	2	47	37
120503	CULINARY ARTS/CHEF TRNING	60	32	24	5	8	38	0	0	60	10
131501	TEACHER ASSISTANT/AIDE	220	7	180	19	54	49	6	7	220	37
150101	ARCHITECTURAL ENGIN TECH	98	79	15	3	13	23	3	15	98	23
150201	CIVIL ENGINEERING/TECH	168	124	9	9	28	53	6	0	168	42
150301	COMPUTER ENGINEERING TECH	41	32	8	1	21	9	3	0	41	12
150303	ELECTRIC/ONIC & COMM TECH	966	764	90	53	252	234	148	90	966	217
150304	LASER & OPTICAL TECH	40	30	1	2	7	8	2	1	40	16
150399	ELECTRIC/ONIC TECH, OTHER	159	149	5	3	32	9	6	5	159	25
150401	BIOMEDICAL ENGIN-REL TECH	56	44	4	2	6	18	1	4	56	17
150402	COMPUTER MAINTENANCE TECH	92	83	2	5	22	18	2	2	92	22
150403	ELECTROMECHANICAL TECH	265	229	32	16	63	94	10	32	265	56

POSTSECONDARY

Page No. 2
04/08/93

DIVISION OF OCCUPATIONAL EDUCATION ENROLLMENT AND COMPLETERS SCHOOL YEAR 1991-92

CIP CODE	CIP TITLE	TOTAL	MALE	FEM.	DIS- ABLED	ECONOMIC DISADV.	EDUCAT. DISADV.	LIMITED ENGLISH	ELIM OF SEX BIAS	ADULT	JUNE 1991 COMPLETERS
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
150404	INSTRUMENTATION TECH	2	2	0	0	0	0	0	0	2	0
150405	ROBOTICS TECHNOLOGY	3	3	0	0	3	0	0	0	3	0
150501	AIR COND, HEATING, REF TECH	190	134	2	11	16	61	2	2	190	26
150506	WATER & WASTEWATER TECH	76	56	12	14	40	13	2	0	76	6
150599	ENVIR CONTROL TECH, OTHER	63	33	18	2	5	15	0	0	63	10
150603	INDUSTRIAL/MANUFACT TECH	13	11	2	1	4	3	1	2	13	5
150607	PLASTICS TECHNOLOGY	5	5	0	0	0	1	0	0	5	0
150699	INDUSTRIAL PROD TECH, OTH	1	0	1	0	0	0	0	0	1	0
150702	QUALITY CONTROL	4	1	2	0	1	0	0	0	4	0
150803	AUTOMOTIVE ENGINEERING	188	173	3	3	70	41	20	3	188	56
150805	MECHANICAL ENGINEERING	258	127	9	11	25	43	6	9	258	27
150899	MECH ENGINEER TECH, OTHER	26	20	4	0	13	13	2	4	26	5
159999	ENGINEERING & REL, OTHER	237	192	29	26	86	59	24	29	237	61
200201	CHILD CARE & GUID WRK/MGR	1005	24	935	47	260	221	40	24	1005	195
200202	CHILD CARE PROVIDER/ASST	79	1	71	0	17	58	0	1	79	0
200401	INSTIT FOOD WORKERS/ADMIN	143	85	52	12	43	51	23	0	143	16
200404	DIETICIAN ASSISTANT	32	3	29	0	0	0	0	3	32	25
200409	INSTIT FOOD SERVICES	24	13	11	3	12	14	3	0	24	9
200499	INSTIT FOOD WORKER/ADMIN,	32	18	14	3	2	11	0	0	32	2
220103	PARALEGAL/LEGAL ASSISTANT	617	70	536	17	206	112	15	70	617	138
231101	ENGLISH TECH & BUS WRITING	3	0	3	0	2	0	0	0	3	1
310101	PARKS/RECREATION/LEISURE	17	7	10	1	3	1	0	0	17	15
410101	BIOLOGICAL TECH	27	14	10	0	0	0	0	0	27	0
419999	SCIENCE TECHNOLOGIES, OTHR	12	10	2	0	0	0	0	2	12	5
430104	CRIMINAL JUSTICE STUDIES	788	526	246	36	274	239	10	0	788	182
430107	LAW ENFORCE/POLICE SCIENC	2217	1540	570	108	416	731	49	0	2217	418
430201	FIRE PROTECTION & SAFETY	334	299	9	10	50	60	4	9	334	54
460302	ELECTRICIAN	52	52	0	0	9	0	0	0	52	30
460501	PLUMBER & PIPEFITTER	11	11	0	0	0	0	0	0	11	26
470104	COMPUTER INSTALLER/REPAIR	47	40	4	1	8	6	3	4	47	17
470604	AUTOMOTIVE MECHANIC/TECH	58	54	4	9	21	32	2	4	58	9
470605	DIESEL ENGINE MECHANIC	45	42	0	0	4	23	1	0	45	6
480101	DRAFTING, GENERAL	121	101	17	4	45	35	1	17	121	56
480102	ARCHITECTURAL DRAFTING	10	10	0	0	1	1	0	0	10	6

POSTSECONDARY

Page No. 3
04/08/93

DIVISION OF OCCUPATIONAL EDUCATION ENROLLMENT AND COMPLETERS SCHOOL YEAR 1991-92

CIP CODE	CIP TITLE	TOTAL =====	MALE =====	FEM. =====	DIS- ABLED =====	ECONOMIC DISADVANT. =====	EDUCAT. DISADVANT. =====	LIMITED ENGLISH =====	ELIM OF SEX BIAS =====	ADULT COMPLETERS =====	JUNE 1991 COMPLETERS =====
480105	MECHANICAL DRAFTING	20	18	2	1	0	6	0	0	20	3
480201	GRAPHIC & PRINTING EQ OPR	216	100	84	18	41	67	18	0	216	57
480503	MACHINE SHOP ASSISTANT	13	9	0	1	3	1	1	0	13	1
489999	PRECISION PROD TRADES, OTH	16	1	0	0	0	0	0	0	16	0
490102	AIRCRAFT PILOT/NAVIGATOR	75	64	11	1	30	23	6	11	75	13
490299	VEHICLE/EQUIP OPER, OTHER	9	5	2	0	1	1	1	2	9	0
500402	GRAPH DESN, COMMERCIAL ART	430	204	217	27	122	132	48	0	430	73
509999	VISUAL&PERFORM ARTS, OTHER	146	67	76	2	35	25	0	0	146	15
510205	SIGN LANGUAGE INTERPRETER	42	0	37	2	15	1	2	0	42	9
510301	COMMUNITY HEALTH LIAISON	160	31	123	17	52	27	4	0	160	29
510601	DENTAL ASSISTANT	99	5	83	1	27	33	5	5	99	56
510602	DENTAL HYGIENIST	211	2	200	3	63	11	6	2	211	100
510603	DENTAL LAB TECH	28	16	12	1	10	10	1	0	28	15
510707	MEDICAL RECORDS TECH	71	4	59	1	14	6	0	4	71	9
510801	MEDICAL ASSISTANT	203	5	181	15	72	82	15	5	203	54
510803	OCCUPATIONAL THERAPY ASST	60	7	53	8	25	18	0	7	60	16
510806	PHYSICAL THERAPY ASST	110	28	80	7	33	24	3	0	110	28
510807	PHYSICIAN ASSISTANT	39	11	28	3	13	17	8	11	39	44
510808	VET ASST/ANIMAL HLTH TECH	68	8	51	1	8	8	3	8	68	6
510902	ELECTROCARDIOGRAPH TECH	3	1	2	0	1	0	0	0	3	3
510904	EMERGENCY MEDICAL TECH	114	70	41	3	22	4	5	0	114	157
510905	NUCLEAR MEDICAL TECH	28	11	16	5	7	0	5	0	28	18
510907	MEDICAL RADIOLOGIC TECH	537	137	373	14	160	93	14	0	537	166
510908	RESPIRATORY THERAPY TECH	193	76	105	5	79	55	6	0	193	66
510909	SURGICAL/OPERATING TECH	67	12	54	1	31	5	4	0	67	33
510910	DIAGNOSTIC MED SONOGRAPHY	36	3	33	0	10	6	0	3	36	15
511004	MEDICAL LAB TECH	240	55	149	19	85	67	6	0	240	35
511501	ALCOHOL/DRUG ABUSE COUNSL	71	26	42	7	35	20	2	0	71	35
511502	PSYCH/MENTAL HEALTH TECH	952	201	725	111	354	356	62	201	952	250
511599	MENTAL HEALTH SERV, OTHER	72	1	70	6	37	45	7	1	72	21
511601	NURSING (R.N. TRAINING)	2759	351	2342	52	932	290	67	351	2759	951
511613	PRACTICAL NURSE (LPN)	290	37	247	3	130	45	13	37	290	149
511614	NURSING ASST/AIDE	55	5	50	0	3	5	0	5	55	40
511801	OPTICIANRY/DISP OPTICIAN	0	0	0	0	0	0	0	0	0	0

POSTSECONDARY

Page No. 4
04/08/93

DIVISION OF OCCUPATIONAL EDUCATION
ENROLLMENT AND COMPLETERS
SCHOOL YEAR 1991-92

CIP CODE	CIP TITLE	TOTAL	MALE	FEM.	DIS- ABLED	ECONOMIC DISADVANT.	EDUCAT. DISADVANT.	LIMITED ENGLISH	ELIM OF SEX BIAS	ADULT	JUNE 1991 COMPLETERS
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
512306	OCCUPATIONAL THERAPY	69	10	54	1	18	2	0	10	69	32
512601	HEALTH AIDE	3	0	2	0	1	0	0	0	3	93
519999	HEALTH PROF & REL, OTHER	1266	177	1056	98	434	452	80	177	1266	30
520101	BUSINESS, GENERAL	1100	449	603	26	275	507	94	0	1100	237
520201	BUS ADMIN & MGMT, GENERAL	4632	1965	2165	138	832	1034	203	0	4632	811
520204	OFFICE SUPERVISION & MGMT	1634	532	1083	122	481	612	176	0	1634	158
520299	BUS ADMIN & MGMT, OTHER	14	1	12	0	7	8	1	1	14	5
520302	ACCOUNTING TECHNICIAN	1563	557	946	85	532	484	182	0	1563	348
520401	ADMIN ASST/SECRETARY, GEN	1084	113	925	48	358	289	110	113	1084	244
520402	EXEC ADMIN ASST/SECRETARY	586	5	556	42	204	209	40	5	586	128
520403	LEGAL ADM ASST/SECRETARY	309	3	292	16	109	116	31	3	309	44
520404	MEDICAL ADM ASST/SECRETARY	112	0	106	14	47	33	15	0	112	21
520405	COURT REPORTER	285	16	249	4	91	22	1	16	285	19
520408	GEN OFF/CLERICAL & TYPING	151	25	126	50	64	89	12	0	151	100
520499	ADMIN & SECRETARIAL, OTHR	47	3	40	1	20	12	6	3	47	13
520701	ENTERPRISE MGMT & OPER, GEN	16	12	3	1	4	2	0	0	16	4
520803	BANKING & FINANCIAL SUPP	27	10	16	0	10	2	1	0	27	3
520901	HOSPITALITY ADMIN/MGMT	56	18	38	1	13	8	0	0	56	6
520902	HOTEL/MOTEL & RESTRNT MGMT	457	187	258	36	120	186	38	0	457	98
520999	HOSPITALITY SERV MGT, OTHR	64	33	28	1	9	20	1	0	64	11
521201	MIS & BUS DATA PROC, GEN	7	3	4	0	2	1	1	0	7	2
521202	BUS COMPUTER PROGRAMMER	551	271	249	27	137	173	104	0	551	61
521299	BUS INFO & DATA PROC, OTHR	568	230	320	50	151	188	63	0	568	83
521501	REAL ESTATE	74	31	42	1	5	3	2	0	74	66
529999	BUS MGMT & ADMIN SERV, OTH	459	172	252	27	115	118	19	0	459	61
***	Total ***	33625	12490	18983	1665	9236	8997	2020	1358	33625	7354

Enrollment Tables for FY 1992 Perkins Act Performance Report

Two versions of the table were created, both using 1990 CIP codes:

- 2-digit summary report
- 6-digit detailed report for appendix

Secondary Data is a combination of:

- Enrollment by 6-digit CIP code for all state-approved vocational programs (whether Perkins-funded or not)
- Enrollment by 2-digit CIP code for vocational programs which are Perkins-eligible but are not state-approved (includes Office Occupations, Technology Education and other programs which are at least 10 periods per week but less than a half day of shop/lab)
- Perkins Act final enrollment reports
 - Single Parent/Displaced Homemaker
 - Corrections
 - Consumer/Homemaking
 - CBO Skills Training
 - (Note: Elimination of Sex Bias and CBO Academic Support enrollments were not used because it was assumed these enrollments were duplicated elsewhere)
- June 1991 graduates of state-approved vocational programs and completers of Single Parent/Displaced Homemaker programs - graduate data for non-state-approved programs and other Perkins grant categories was not available.
- One-Year Follow-up Study of June 1990 graduates of state-approved vocational programs - follow-up information is not available for Perkins grants or for non-state-approved vocational programs. Follow-up data for some of these programs will eventually be available as part of the system of standards and measures required by Perkins.

The column **adult** consists of:

- Postsecondary and Postgraduate enrollments in secondary districts
- Single Parent/Displaced Homemaker enrollments (Some Single Parent programs are run by secondary districts and others by community colleges, but all were reported on the secondary table.)

Postsecondary Data is community/junior college enrollment only:

- October 1991 enrollment for day and continuing education
- June 1991 graduates

No follow-up data is currently available for community colleges. Follow-up data will be available in future years for Perkins-funded programs as part of the system of standards and measures required by Perkins.

Other Notes Regarding Enrollment Tables

The columns: male, female and total, are unduplicated to the extent possible. Some Single Parent/Displaced Homemaker enrollments may have been included twice.

It is not possible to calculate the number of **regular** students from the data we collect.

The columns: economically disadvantaged, educationally disadvantaged, limited english proficient, and disabled are duplicated counts. It is not possible to get an unduplicated count of **disadvantaged** students. In most cases, a student may not be counted as both disabled and educationally disadvantaged.

The column **elimination of sex bias** refers to students enrolled in programs nontraditional for their gender and does not refer to enrollment in an elimination of sex bias Perkins grant.

SECONDARY

Page No. 1
04/05/93

DIVISION OF OCCUPATIONAL EDUCATION
ENROLLMENT AND COMPLETERS
SCHOOL YEAR 1991-92

CIP CODE	CIP TITLE	TOTAL	MALE	FEM.	ECONOM. DISADV.	EDUCAT. DISADV.	LIMITED ENGLISH	DIS- ABLED	CORREC- TIONS	SP/DH /SPW	ELIM OF SEX BIAS	ADULT	JUNE 1991 COMPLETRS
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
01	AGRICULTURE	1195	624	571	157	355	34	286	0	0	92	280	247
03	NATURAL RESOURCES	88	62	26	5	31	9	11	0	0	5	27	19
08	MARKETING	1987	665	1322	465	477	62	265	0	49	2	146	912
10	COMMUNICATIONS TECHNOLOGY	309	204	105	52	104	49	51	0	0	0	0	8
11	COMPUTER TECHNOLOGY	2158	745	1413	574	452	140	199	30	10	16	222	442
12	PERSONAL SERVICES	1791	138	1653	385	346	109	304	34	0	74	342	606
15	TECHNOLOGY EDUCATION	4051	3362	689	857	803	236	415	0	56	646	325	395
20	CONSUMER/HOMEMAKING	6425	1949	4476	2459	2246	750	1687	8	8	62	101	728
43	PROTECTIVE SERVICES	1	0	1	0	0	0	0	0	1	0	1	1
46	CONSTRUCTION OCCUPATIONS	7934	7330	604	1346	1759	224	1864	10	5	370	860	1788
47	MECHANICS & REPAIRERS	5496	5214	282	1375	1547	351	1610	64	9	253	287	1042
48	PRECISION PRODUCTION	6359	5084	1275	1356	1526	315	1379	86	22	569	395	1438
49	TRANSPORTATION/MAT MOVING	89	87	2	17	27	2	32	0	0	2	3	21
50	VISUAL & PERFORMING ARTS	550	356	194	87	85	17	111	0	0	0	47	151
51	HEALTH OCCUPATIONS	2926	252	2674	696	392	92	318	0	248	178	1251	1062
52	BUSINESS MGMT/ADMIN SERV	15518	5114	10404	2890	2800	1489	1013	0	442	34	668	416
99	OTHER NOT ELSEWHERE CLASS	8092	5017	3075	1720	1744	439	1949	0	76	0	146	60
***	Total ***	64969	36203	28766	14441	14694	4318	11494	232	926	2303	5101	9336

SECONDARY

Page No. 1
04/06/93

DIVISION OF OCCUPATIONAL EDUCATION
ONE-YEAR FOLLOW-UP STUDY OF
SCHOOL YEAR 1989-90 GRADUATES

CIP CODE	CIP TITLE	CONTINUE EDUCATION	EMPLOYED RELATED	EMPLOYED NON-REL.	MILITARY	OTHER
=====	=====	=====	=====	=====	=====	=====
01	AGRICULTURE	48	93	40	6	30
03	NATURAL RESOURCES	2	13	6	1	2
08	MARKETING	290	266	95	40	72
10	COMMUNICATION TECH	0	1	1	0	0
11	COMPUTER TECH	107	98	56	9	31
12	PERSONAL SERVICES	57	286	80	2	49
15	TECHNOLOGY EDUCATION	121	81	36	34	25
20	VOCATIONAL HOME ECONOMICS	154	197	92	26	46
46	CONSTRUCTION OCC	176	572	376	136	128
47	REPAIR & MAINTENANCE	94	373	146	66	68
48	PRECISION PRODUCTION	216	433	242	72	97
49	TRANSPORTATION	1	2	4	3	1
50	VISUAL & PERFORMING ARTS	45	21	19	2	24
51	HEALTH OCCUPATIONS	78	439	47	7	47
52	OFFICE OCCUPATIONS	3	4	4	0	1
***	Total ***	1392	2879	1244	404	621

POSTSECONDARY

Page No. 1
04/08/93

DIVISION OF OCCUPATIONAL EDUCATION
ENROLLMENT AND COMPLETERS
SCHOOL YEAR 1991-92

CIP CODE	CIP TITLE	TOTAL	MALE	FEM.	DIS- ABLED	ECONOMIC DISADVAN.	EDUCAT. DISADVAN.	LIMITED ENGLISH	ELIM OF SEX BIAS	ADULT	JUNE 1991 COMPLETERS
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
01	AGRICULTURE	50	33	14	4	4	13	0	6	50	22
03	NATURAL RESOURCES	22	17	5	1	7	13	0	0	22	6
04	ARCHITECTURE & RELATED	3	0	3	1	1	0	1	0	3	2
08	MARKETING	592	113	459	22	143	172	26	30	592	97
09	COMMUNICATIONS	43	29	14	2	10	9	0	0	43	4
10	COMMUNICATIONS TECHNOLOGY	266	158	97	34	93	88	9	0	266	29
11	COMPUTER TECHNOLOGY	1130	494	401	36	333	233	92	0	1130	129
12	PERSONAL SERVICES	107	34	66	9	22	57	5	2	107	47
13	EDUCATION	220	7	180	19	54	49	6	7	220	37
15	ENGINEERING-RELATED TECH	2951	2291	248	162	707	715	238	198	2951	626
20	VOCATIONAL HOME ECONOMICS	1315	144	1112	65	334	355	66	28	1315	247
22	LAW & LEGAL STUDIED	617	70	536	17	206	112	15	70	617	138
23	ENGLISH LANGUAGE/LITERAT	3	0	3	0	2	0	0	0	3	1
31	PARKS, RECREATION, LEISURE	17	7	10	1	3	1	0	0	17	15
41	SCIENCE TECHNOLOGY	39	24	12	0	0	0	0	2	39	5
43	PROTECTIVE SERVICES	3339	2365	825	154	740	1030	63	9	3339	654
46	CONSTRUCTION TRADES	63	63	0	0	9	0	0	0	63	56
47	REPAIR & MAINTENANCE	150	136	8	10	33	61	6	8	150	32
48	PRECISION PRODUCTION	396	239	103	24	90	110	20	17	396	123
49	TRANSPORTATION	84	69	13	1	31	24	7	13	84	13
50	VISUAL & PERFORMING ARTS	576	271	293	29	157	157	48	0	576	88
51	HEALTH OCCUPATIONS	7846	1290	6268	384	2671	1682	318	827	7846	2460
52	OFFICE OCCUPATIONS	13796	4636	8313	690	3586	4116	1100	141	13796	2523
***	Total ***	33625	12490	18983	1665	9236	8997	2020	1358	33625	7354

